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Editorial

A FEW BRIGHT streaks begin to appear in the darkness of the teacher supply situation. They are tiny ones, to be sure, and one would have to be something less than a realist to assume that the night is about to give way to the full day.

Nevertheless, there are harbingers which provoke some optimism. First, there are the results of the 1955 Teacher Supply and Demand Report, published in this issue of the *Journal*. It had been assumed, from available information on the size of the 1953-54 junior classes of colleges, that another decrease—five or six per cent—would be reported by colleges and universities in the number who would finish preparation for teaching this year. Instead, graduates this year will be slightly more numerous than in 1954. This is encouraging. It marks the first year since 1950 that an increase has occurred. The graph of supply now turns upward; and from here on, the evidence would seem to indicate steadily increasing annual totals of newly prepared teachers.

Then there is the surprising upturn in total college enrollments this year. (One estimate is for an all-time peak enrollment of 2,750,000 college students for the current year.) Assuming that the anticipated long-term college enrollment increases are now underway, we may expect them to contribute comparable increases each year hereafter to the pool of new teachers.

There was, too, this year, a surprisingly large increase in teacher education enrollments—an increase which, for the nation as a whole, far outstripped the increases in general college enrollments. In some states the increase in teacher education enrollments ran as high as 30 per cent. Teachers colleges outstripped enrollment increases in all other types of senior colleges in the increase in new students.

Finally, the assault upon certification standards in state legislatures, which many expected in view of the gravity of the teacher shortage, apparently has not transpired. In fact, in several state legislatures, bills were introduced to raise standards. Moreover, several states report the stepping up of certification standards this year, by action of their state boards of education.

Putting these tiny streaks of light together, we begin to see what looks like definite hues of light toward the east. If these evidences do not herald, to use Mr. Churchill's famous words, "the beginning of the end" of the teacher supply-demand problem, they do presage "the end of the beginning."

—*T.M.S.*

PRE

The Choice of a Vocation

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Any discussion of selective recruitment of students for teacher education must turn upon a number of assumptions regarding the way in which young people make vocational choices. In this article, Dr. Jordaan reviews current research regarding the choice of a vocation and offers a summary of our present knowledge of the subject. He argues that vocational "development" is a better term than "choice" because "Every vocational decision has a history. . . . The final decision . . . is the result of a process stretching over many years."

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EVEN young children will volunteer a reply to the question: "What would you like to be one day?" But these are generally fantasy choices and, in many instances, readily distinquishable from the somewhat more meaningful, more adult preferences of early adolescence.

Those adolescents who are brighter and more mature emotionally tend to express preferences somewhat earlier than those who are not, and their preferences are also more likely to be in keeping with their measured interests (6).*

At every stage—junior high, senior high, and college—there are students who are uncertain about their vocational plans. Figures vary with the group studied and the way in which the data are gathered. Several investigators have reported a high incidence of "choices" among ninth grade pupils. In one carefully conducted study (the Career Pattern Study of the Horace Mann-Lincoln Institute of School Experimentation, Teachers College, Columbia University**) *every* ninth grader expressed a vocational preference. However, in a group of tenth-graders studied by Carter (6) only fifty-five per cent indicated a "definite choice of occupation." Somewhat different figures are reported for high school seniors and college students but they do not differ as much as one might expect. Of the 75,000 high school seniors studied by Byrns, twenty-four per cent of the boys and fourteen per cent of the girls were without a "choice" (4), and of the college students studied by Nelson (19) and Anderson (2) from one-quarter to one-third fell in this category.

There are several things that make such studies as these difficult to interpret. First, the way in which the subjects' preferences were elicited is not always clearly described. For example, the question, "What would you like to do one day for a living?" can be expected to yield somewhat different results from the question, "What do you *expect* to do one day for a living?" Second, results are usually reported in the form of "those with a choice" and "those without a choice," no distinction being made between those who are fairly definite about their choices and those who are willing to state a prefer-

*In this paper, numbers in parentheses refer to references in the bibliography.

**Under the general direction of Dr. D. E. Super.

ence but are quite uncertain about it.

Consequently, any conclusions drawn from these studies must be tentative. It is clear, however, that at every stage there are persons who are quite uncertain about their vocational plans. Some are still undecided when they reach college. As Carter has put it: "There is no single chronological age at which persons develop significant vocational interests; for different persons the age differs."

Stability of Preferences

How stable are the "choices" of adolescents? As one would expect, the answer to this question will vary with the age of the subjects and with the period of time involved. Thus, for example, preferences tend to be fairly stable over a one-year period. In one study, sixty-two per cent of a group of eighth grade boys re-affirmed the preferences expressed twelve months previously (9), and in another two-thirds of a group of college sophomores listed the same choice as they had listed as freshmen or one very similar to it (23).

The age of the subjects is also important. One would expect greater changes between the ninth and twelfth grades than between the senior year of high school and the senior year of college, even though the period of time involved is the same (or nearly the same) in both instances. Such data as are available would seem to confirm this. In two studies located by the writer the percentage of students in these two groups who abandoned their earlier choices was fifty per cent and thirty per cent respectively (13).

The studies quoted above are concerned simply with the question: How reliable (that is, how stable) are vocational preferences? A related question which concerns validity rather than reliability is: To what extent do individuals really enter the occupations which they say they are planning to enter? Strong followed up a group of freshmen and compared their choices as freshmen with the occupation engaged in nineteen years later (24). Fifty per cent were found to have entered the occupation of their early choice or one closely related to it. The results of this study are important because they indicate that a considerable number of freshmen not only enter the occupation of their choice but are sufficiently satisfied to remain in it.

Realism of Choices

Numerous studies have focussed on the lack of realism which is displayed in the choices which high school youth make (25). These show that a disproportionate number select professional, business, and managerial occupations (25, 30) while the unskilled and semi-skilled occupations in which a large proportion of them will have to earn their living tend to be ignored.

Pupils tend to limit their choices to a small handful of crowded occupations (17) and their choices bear very little relationship to the jobs available in the communities in which they live or to the number of workers that can be accommodated in the occupations they select (25). Boys typically aspire to occupations at a higher level than those in which their fathers are employed (15); most, however, will eventually be employed at approximately the same level as their fathers (25: Ch. 2).

It is therefore inevitable that there will be a big discrepancy between the kinds of jobs high school youngsters want and the kinds of jobs that they will get upon leaving school. Frequently these unrealistic ambitions persist for many years after the pupil has left school and lead to a feeling of dissatisfaction with his job (25: Ch. 2).

Determinants of Vocational Choice

Role of parents and other key figures. Studies in this area have generally been somewhat superficial and limited in scope and the findings frequently contradictory. Thus in several studies it is reported that youngsters' preferences are apparently little influenced by parents, teachers and friends (5: 54, 62), whereas in others just the opposite is claimed. A typical example of the latter is a recent study by Dukes in which a group of high scool seniors in Delaware were provided with a checklist and asked to indicate who, in their opinion, had influenced them most in their choice of a career. The three items checked most frequently were parents forty-seven per cent, adult friends sixteen per cent, and teachers thirteen per cent.

Such studies have generally proved unrewarding. In the first instance, it is doubtful whether checklists and questionnaires or indeed any instrument which relies on self-report and self-evaluation can yield useful and meaningful results. Some of the influences operating on the youngsters are very subtle and are factors whose presence or effect he is unlikely to be able to recognize or describe, except in a very general way. His attitude to his father (or mother), persons with whom he consciously or unconsciously identifies himself and the values transmitted to him by his family fall into this category.

Two studies in particular suggest that these would be fruitful topics for study. Friend and Haggard, for example, found that childhood family adjustments and satisfactory identification with at least one of the parents were related to adjustment to the job as an adult (10). In a provocative study by Roe there appeared to be some relationship between the lack of interest which a group of eminent physicists evidenced in personal relations and their strong feeling of independence of their parents (22). This finding was strengthened in the case of a group of biologists whom she also studied: forty per cent of them had suffered the loss of a parent by the age of ten and in many instances their homes appeared to be characterized by a lack of warmth (21). The implication is that these factors were not unrelated to their having selected scientific research as a vocation.

There is obviously a need for further research along these lines bearing specifically on the question of choice. Both Ginsberg (12) and Super (27, 29) have stressed the important role that identification can play in the choice of a vocation. The former is of the opinion that "the person who does not or cannot make appropriate identifications is apt to show some deviation in his occupational choice behavior. . . . Young men who are encountering difficulties in making an occupational choice give evidence that they have not made an appropriate identification with their father or other key persons." Super's view is that the picture which the individual has of himself as a person and which he will eventually attempt to translate into occupational terms when he comes to decide on a vocation, develops out of his experiences in attempting to play various roles. Some of these roles, he suggests, have their origin in the individual's desire to imitate or emulate certain persons in his environment and play an important part in helping him to clarify his self-concept.

Socio-economic status. Despite their high ambitions most boys end up at more or less the same point on the occupational ladder as their fathers. Usually, however, it is the father's occupational *level* which is inherited rather than the occupation itself. When the father's occupation is selected it is usually on account of a strongly estab-

lished family tradition or, at the higher levels, because there is a ready-made business or practice for the boy to go into.

This process whereby youngsters inherit their father's occupational level is known as social stratification and has been described in some detail by Hollingshead (14), Anderson & Davidson (1), Miller and Form (18) and others. They have indicated that though the young worker may move from job to job before he eventually becomes established in his regular adult occupation, this movement is generally not upwards. This process, however, is not inexorable, although in a small, static community such as Hollingshead has described (14) it might well be. Some individuals do succeed in bettering themselves, although perhaps not as much as they had hoped. Thus Reynolds and Shister in their study of a group of manual workers in a New England manufacturing town found evidence of a "considerable amount of occupational progress" (20).

We unfortunately know very little about the factors that make it possible for some persons to advance up the occupational ladder while others who are similarly placed are apparently unable to do so. Intelligence, personality, drive, persistence, ambition, and the possession of some special talent or aptitude are probably some of the factors involved.

As Super has pointed out (28) we need to have much more precise knowledge about the factors affecting the rate and direction of movement from one job to another if we are to make any use of these individual differences in helping pupils (and young adults) to plan their careers.

The fact remains, however, that a considerable number of young workers, perhaps the majority, will not rise very much above the level they start out at and that only a few of them will improve substantially on the socio-economic status of their parents.

Personality. How and to what extent do personality factors enter into the choice of a vocation? The answer to this question is not as simple as the popular use of such terms as "the typical salesman," "the typical bookkeeper" and "the typical scientist" would suggest. This is not to deny that these popular stereotypes do sometimes have some basis in fact. Thus travelling salesmen do, on the whole, tend to be more dominant than bookkeepers (26: 496) and scientists to avoid rather than to seek out social contacts (21, 22). However, there are many salesmen and scientists for whom this will not be true, and not a few non-salesmen and non-scientists for whom it will.

Thus, while there may be differences in the personalities of persons engaged in different occupations, these differences are by no means clearcut. It is probable that in the same way as an occupation can, within certain limits, accommodate persons with differing interests and differing abilities, it can also accommodate persons with differing personalities. Super's view, which may need to be revised as more data of the type which Roe has been publishing becomes available (21, 22) is that "in general, personality structure is more closely related to the kinds of adjustment problems which will be encountered on the job than to the type of vocation chosen or succeeded in" (26: Ch. 19).

Interests. Do the vocational preferences of adolescents agree with their measured interests? In Mehenti's study,* forty per cent of the ninety-three ninth-graders studied had preferences which were supported by a primary interest pattern on the Strong Vocational Interest Blank, and twenty-two per cent had preferences which corre-

sponded to a secondary pattern (16). This suggests that even at this early stage interests are an important determinant of "choice." Strong's work with college students throws further light on the role of interests. He compared the occupational choices of college freshmen with the occupation engaged in nineteen years later. Those who had entered and remained in the occupation of their early choice were found to have made significantly higher scores on the interest blank as freshmen than those who subsequently changed their choice or their occupation (24).

However, at the college as at the ninth-grade level there are many students who have no clearly defined patterns of interest or who express preferences which are not in harmony with their interests (3*; 26: 429). The vocational preferences of such persons are clearly related to other factors than interest, which suggests that important as they may be, interests are merely one determinant of "choice."

Abilities. Do the vocational preferences of adolescents agree with their abilities? Studies in this area have generally been confined to a comparison of the pupils' I.Q. with the intellectual requirements of the chosen occupation. These have shown, as one would expect, that the brighter pupils have more appropriate vocational objectives than those who are less bright, and that the less able pupils frequently aspire to occupations which require considerably more ability than they possess (7, 4). These studies unfortunately make no reference to aptitudes and special abilities which, in some occupations, can be expected to be as important as the I.Q.

Studies conducted with draftees during the two World Wars indicate that although occupations can be grouped according to the mental ability of the people engaged in them, these differences are not clear-cut. The groups overlap sufficiently to indicate that intelligence is only one of many factors determining which occupation a person will go into.

*Conducted in conjunction with the Career Pattern study described earlier.

Vocational "Development"

While the announcement of his vocational decision may be sudden, the process by which a person comes to make it is not. And while it may be unexpected, in the sense that the occupation he has selected may not be the one which one would have expected him to select, it is so only because the influences which have been at work—usually over a period of many years—cannot always be clearly perceived.

Every vocational decision has a history and to understand it one needs to understand the events, experiences and decisions which have preceded it. The final decision (which may not be made until after the individual has left school) is the result of a process stretching over many years (it may be ten years or more), during which the individual gradually clarifies his self-concept, his goals and his values, and gains some measure of insight into his interests and abilities. Certain decisions that he may make during this period (such as the decision to leave school or to take the vocational rather than the college preparatory course) will in due course necessitate other decisions which, like those already mentioned, could well prove to be important turning points in his career.

As Dysinger has put it: "A vocational choice is a process of growth reflecting other phases of development. The terms vocational choice, vocational decision etc. suggest a single decision, but the emphasis should be placed on the developmental process" (8). Some of the stages that the individual passes through before arriving at his final

choice have been described by Super (27) and Ginsberg (12); and Super has underlined the fact that to understand the process of choice and adjustment (which does not end when the individual takes his first job but continues right through to retirement), one needs to study the individual's entire life history.

The process by which the individual arrives at his choice of a vocation is a complicated one which cannot be accounted for in terms of any single factor. It is, as Forer has explained, "the culmination of the individual's unique psychological development."

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Will They Get the Jobs They Want?

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This is a study of 1,600 student teachers of the four municipal colleges of New York City with respect to the characteristics of their "ideal" teaching situation. The authors believe that the differences between the actual jobs available and these ideal jobs may have some influence on the high rate at which young teachers leave the profession. They argue that "It is the duty of teacher training institutions to apprise our future teachers of the conditions under which they will probably work after graduation, and to create in the students some of the missionary spirit that is undoubtedly a necessary ingredient of effective teaching."

AT PRESENT approximately 100,000 students per year are meeting the requirements for teacher certification in the United States. This is a large number of teachers, but unfortunately, it falls far short of the number that are needed. In view of this shortage, which has been so widely publicized, it is unfortunate that so many persons who are qualified to teach fail to enter the profession, or enter it only to leave after a few years. The teaching profession does not have very high holding power. The extent of this problem is indicated by a recent editorial in *The Journal of Teacher Education*[1] which stated that ". . . the number of new teachers needed each year could be cut in half if conditions were stabilized so that the annual leaving rate of qualified teachers could be reduced to approximately that of the more respected professions."

Some reasons for the high turnover rate are obvious. Low salaries, and the resignations of women teachers to raise their families, are two which immediately come to mind. Another factor, which may contribute to the high turnover, is that certain conditions in the schools differ from those which the teachers envisioned before they started teaching.

The authors suggest the hypothesis that the extent of the discrepancy between a teacher's idealized teaching position and the actual teaching position obtained is related to the teachers' persistence in the profession. This hypothesis has not yet been tested, but it will be tested in the near future with a group of teacher education graduates of the New York City municipal colleges. As a first step in testing the hypothesis, a means of determining the nature of the idealized teaching positions of future teachers was devised. The method used was to ask the student teachers to express their specifications for the ideal teaching job. In particular, they were asked to describe the school, the pupils, and the grade level or subject matter areas they would like if they could have any job they wanted when they started to teach. Descriptions were obtained from approximately 1,600 student teachers of the four municipal colleges of New York City during the 1953-54 school year. A sample of 160 of these descriptions were content analyzed to determine what conditions in the school were desired by the student teachers.[2] The analysis of these

[1] Editorial. *Journal of Teacher Education*, 1953, *4*, p. 2.

[2] Wandt, E. and Aikman, L. P. *Analysis of the Idealized Teaching Position Desired by Student Teachers.* Office of Research and Evaluation, Division of Teacher Education, College of the City of New York, Publication No. 23, July, 1954.

descriptions may throw some light upon the problem of teacher turnover. The major results of the analysis are reported in the following paragraphs together with their implications for teacher education. The results of the content-analysis and the implications drawn therefrom apply only to the student teachers attending the municipal colleges of the City of New York during 1953-54. The extent to which descriptions written by student teachers in other portions of the country would agree with those reported here is not known.

School Conditions Desired

The content analysis revealed over one hundred different kinds of conditions stipulated by the 160 student teachers as being desirable in an ideal teaching position. Almost all of these points could be encompassed in eighteen categories. For the purposes of this paper, these eighteen categories have been further combined, and only those broad categories which were mentioned by at least one-third of the student teachers are reported.

The condition mentioned most frequently by the student teachers was that they wanted to teach within a smaller range of ages or grades than that which they would be legally qualified to teach. For example, elementary teachers specified grades 1 and 2, or 5 and 6, and secondary teachers frequently specified high school rather than junior high school even though they would legally be qualified to teach at both levels.

Although very few teachers directly stated that they wanted to work in schools where there was no discipline problems, over three-fourths of the students indicated, in some manner, that they would prefer to teach children who presented no behavioral problems in the classrooms.

Over two-thirds of the students teachers included in their descriptions some reference to the physical facilities of the school. These students expressed an interest in working in good buildings, and having available the necessary supplies and facilities which would enable them to carry out their jobs.

Over one-half of the students indicated a desire to restrict the socio-economic levels from which their future pupils would be drawn.

Many of the students were concerned about the mental ability of their future pupils. Almost two-fifths of the student teachers indicated a desire to restrict the range of abilities of their pupils. Most of the student teachers who mentioned a restriction in this area indicated a lack of desire to work with "low" I.Q. children, although quite a few of them also indicated a disinclination to work with "high" I.Q. children.

To recapitulate, a large percentage of the student teachers in the study mentioned five kinds of conditions which they would consider very desirable in their future teaching job. These are:

1. *Restriction of the range of age or grade level taught.*
2. *Absence of discipline problems.*
3. *Good phsical working conditions.*
4. *Restriction of the socio-economic level of the pupils.*
5. *Restriction of the range of mental ability of the pupils.*

Educational Implications

Regarding the type of condition most frequently mentioned (restriction of age or grade level taught), it seems likely that a large percentage of the student teachers will able to achieve their goal in this area. Unfortunately, some of them will not be able to obtain a position at the exact level they desire. For example, many secondary teachers who desire to teach in a senior high school will have to accept positions in

junior high schools. If these teachers regard the junior high school positions with distaste, as some of them do, a most unfortunate educational situation can develop. Many communities are having difficulty in staffing their junior high schools. Much of this difficulty is caused by the fact that teachers who are qualified to teach junior high school wait for jobs in the senior high schools. It seems unfortunate that so many future teachers have restricted themselves to particular age or grade levels.

The large majority of teachers-to-be who hope to have their "discipline problems" taken care of by excluding them from their classes, are probably due for a rude awakening. There are undoubtedly children in any group who may present social behavior problems. If teachers want teaching jobs with no discipline problems, it seems unlikely that they will find them ready made. If prospective teachers know that they themselves are, in large measures, responsible for the conduct of their students, and that they can change the behavior of children in their classes, they may view this challenging aspect of teaching with less apprehension.

While many future teachers will have to "make do" with inadequate school plants, facilities, and supplies, it would seem reasonable to hope that increased aid to education may eventually improve the level of the physical conditions in the average school to a point where the teachers have the necessary school plants, facilities, and supplies to assist them in giving their pupils the best possible education.

With regard to the last two conditions mentioned by the student teachers, it appears to the authors that many of our student teachers are inevitably going to be disappointed in the academic ability and socio-economic level of their students if they have a preconceived notion that their classes should consist of average or superior students from average or better socio-economic background. All of the children, including those of below average intelligence and from low socio-economic backgrounds, go to our schools. They need and are entitled to competent and sympathetic teachers just as much as those students of higher ability or means.

A job which consists of teaching a particular grade level, in a new school with complete facilities and supplies, with children who are of average or superior intelligence, who present no behavior problems, and who come from "good" homes, seems to be the ideal of many of our future teachers. Some few of them will be able to achive all of these goals, others will be able to achieve only part of them, and still others will be disappointed in all of their hopes.

The hypothetical "average" class includes slow children as well as bright children, children from low socio- economic levels as well as from high, and social behavior problems together with well behaved pupils. These are the children who attend our public schools. It would seem desirable for our future tearchers to know, understand, and be prepared to teach *all* of these children.

Teaching is a challenging profesion. It is a duty of teacher training institutions to apprise our future teachers of the conditions under which they will probably work after graduation, and to create in the students some of the missionary spirit that is undoubtedly a necessary ingredient of effective teaching.

Will our future teachers find their "dream" jobs? Probably not. Let us hope that they will want to take and keep the jobs they find, seeking improvement in those conditions which can be changed, and accepting and adjusting to those which cannot.

Summer Jobs for Science Teachers

John H. Woodburn
National Science Teachers Association

SHOULD teachers be encouraged to seek science-related summer jobs in industry? Will teachers be more or less inclined to stay in teaching if they know they have a summer job awaiting them? Do the values of such a program justify the risks? The Future Scientists of America Foundation of the National Science Teachers Association and other professional groups think this question is worth studying.

What do teachers who take such jobs find themselves doing? There is a wide variety of answers to this question. Some examples follow:

While Lee Armstrong of Aberdeen, Washington was working with the University of Washington School of Medicine, his basic job was to find the cost and reproduction formula for maintaining a colony of white mice for experimental purposes. He also assisted in the artificial development of polio in experimental monkeys.

George W. Conklin of Deadwood, South Dakota found his job to be conducting tours through an abandoned but reconditioned gold mine. Harold M. Rees obtained an interesting job through the efforts of the Detroit Schoolmen's club. He says:

> My work has involved various engineering computations in the office as well as field work such as measuring angles and distances for charting the Great Lakes, operating an echo sounder for determining profiles for the bottom of the lakes and rivers, operating electronic devices for locating ships on the lakes, and others.

Jobs seem to range in difficulty all the way from making syrup for canning companies to conducting x-ray analysis and crystallogrophy studies.

Are summer industrial jobs sources of classroom and laboratory activities for teachers? They seem to be. Charles Alban who worked for a Muncie building contractor "found several new locations for collecting insects and botanical specimens." At the same time he found "new applications for figuring the amount of rainfall, carrying away of water, board feet, etc."

Many new applications of subject matter were picked up by Fred G. Pregger while working with fellow employees for the Bell Telephone Laboratories. Some examples are "the growing importance of the transistor in communications, widespread use of microwave transmission in the communications throughout the country, and the tremendous use of completely automatic circuits and machinery."

Most of the material picked up by Morris Grodsky during his job with the Medical Center of the University of California was above high school level. It did, however, serve to review many aspects of zoology, biology, and biochemistry. L. G. Richardson's students are now doing experiments involving analysis of well water, an activity that can be traced to his summer job with the Texas Electric Service Company. John Sidun's job with Allied Chemical and Dye provided some "new titrations for his science-minded students."

What is probably the most valuable outcome is reported by J. Y. Ibbotsen following his summer with the Magnolia Field Research Laboratories: "this was the first time I had seen the scientific method of investigation of a

problem in industry properly applied. I am now using some of these ideas."

What might be called the sociological outcomes are equally varied. Quoting Ibbotsen again, "It is quite impressive to see fortunes being spent on ideas when only five per cent of them ever prove worthwhile." Further, "We appreciate the opportunity of working with a collection of scientists—this is the first time I had ever sat at a table and discussed a common problem with PhD's in mathematics, chemistry, electronics, and acoustics."

In a slightly different vein, Conklin says:

> I have always advocated that teachers should find summer jobs in industry. It seems to bring the teachers into closer contact with the less professional man and develops in the teacher a greater appreciation of the world's need of the common labor. The teacher soon learns from the laborer that all knowledge cannot be adequately expressed in the books and that first hand experience is the best source of knowledge.

Another teacher who might want to remain anonymous says,

> I would almost wish that summer employment be a requirement for teachers; we tend to live in an unrealistic, school-dominated world. Too many teachers have gone directly from college to teaching, without a real understanding of how the things they are teaching are going to be used in the "outside world." Too few of us have rubbed shoulders with laboring men, gotten our hands dirty and been dressed-down by a plain speaking foreman instead of a school administrator concealing his real meanings with educational jargon.

The risks and hazards of encouraging science teachers to seek industrial summer jobs are becoming clarified. Some teachers who cannot find an appropriate job become disappointed or, as one man put it:

> I would hesitate to advise my friends to hunt for an industrial job next summer because of the negative results and the demoralizing effects of these results. Another teacher says, "All the teachers that I know that worked in industry worked for the Union Crafts. When you work for the 'Uncon,' you don't start on a labor gang and the salary isn't too bad. These are the facts of life."

Another hazard that is less clearly defined but nonetheless real involves the teachers' confidence in seeking and going to work on an industrial job. Teachers seem to have an exaggerated opinion of the difficulty and complexity of the jobs that are ahead of them. They sometimes underestimate the willingness of their employer to check them out in new skills. For example, although Virginia Karns was admittedly, "awkward, ignorant and ill at ease" when she first went to work for Monsanto she soon recognized the friendliness of the people with whom she was to work and "the patience with which they answered my questions."

Another hazard has a slightly different twist. Industrial people who are willing to hire teachers are sometimes disappointed when they have no applicants.

Underlying this whole program is, of course, the very real problem of providing teachers who can give the kind of instruction that will keep more boys and girls interested in technical, scientific, and engineering careers. The obviousness of the counselling values of summer jobs is the only reason they have not been emphasized in this report. To the extent that the nation's welfare hinges on having an adequate supply of technically trained personnel available at all times, it becomes important that science teachers stay up to date on the most recent developments in science. Summer jobs in industry may well turn out to be an effective aid in accomplishing this goal.

Has School District Reorganization In Illinois Solved The Problem Of Teacher Turnover?

W. W. Charters, Jr.
University of Illinois

ONE of the persistent problems confronting educators over the country is the large turnover among teachers at the end of every school year. In Illinois high schools, for example, the average school administrator is confronted with the necessity of finding replacements for approximately one out of every four members of his teaching staff each year. In a substantial number of schools the rate of turnover is above 50 per cent.

Excessively high rates of teacher turnover must certainly hinder the development of effective educational programs in America's schools. Administrators are forced to turn their attention away from creative concerns simply to maintain the staff of the institution; the new teachers are obliged to invest a relatively large share of their time in becoming oriented to the school and the community; and pupils lose the sense of continuity in their school life as old teachers leave and new teachers arrive. These are only a few of the problems created by high rates of teacher turnover.

Within recent years, Illinois has moved to reorganize the small, overlapping school districts into larger, coherent structures — the community unit district. Proponents of district reorganization view this movement as a step toward the solution of a number of educational problems: toward effecting economies in the costs of school operation, toward increasing efficiencies in administration, and toward providing better educational services for the youth of the community.

Can we add reduction in high rates of teacher turnover to the list of advantages claimed for district reorganization? The evidence which we have collected so far is not encouraging; we are forced to conclude *at this moment* that district reorganization has not solved the problem of teacher turnover in Illinois.

In the course of a larger study of personnel turnover in Illinois school systems, supported by the Bureau of Educational Research of the University of Illinois, we have been able to pursue two forms of analysis of the effects of reorganization upon teacher turnover: (1) we have compared rates of teacher turnover in samples of reorganized and non-reorganized high school districts for the year 1951, and (2) we have plotted the yearly rates of turnover for selected groups of schools before and after reorganization. Let us examine the results of these two forms of analysis.[1]

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[1]The author is indebted to the State Office of Public Instruction for making available information upon the basis of which turnover rates were computed. He also wishes to acknowledge the courtesy of Professor W. P. McLure who provided the samples of reorganized and of non-reorganized school districts of the state.

A more complete report of this project is available from the author under the titles, "The Effects of School District Reorganization upon Teacher Turnover in Illinois High Schools," April, 1954, (mimeo.) and "Supplementary Analysis: District Reorganization and Teacher Turnover in Small Illinois High Schools," July, 1954 (mimeo).

Size-Classes

When we compared schools *roughly* equivalent in size, the average rate of teacher turnover (in 1951) for reorganized high schools was neither consistently higher nor lower than the average rate for non-reorganized schools. (Because of the regular inverse relation between school size and turnover, comparisons must be made by size-classes.) In two of the four size-classes of schools, reorganized high schools had *lower* rates of teacher turnover than non-reorganized high schools; in the other two size-classes the reorganized schools had *higher* rates of turnover. Reorganized high schools with fewer than ten teachers, for example, had an average turnover rate of .25 (i.e., 25 per cent of the total staff was replaced in 1951) while non-reorganized schools in the same size bracket had an average rate of .32.

In only one of the four size-classes was the difference between reorganized and non-reorganized schools statistically significant. Reorganized schools with 20 to 40 teachers had an average turnover of .13 in comparison with the average of .19 for non-reorganized schools in the same class. As we pondered this finding, we discovered that a substantial difference in school size existed between these reorganized and non-reorganized schools *even within the size-class we had established.* The reorganized high schools tended to have 30 to 40 teachers, while non-reorganized schools tended to have staff sizes between 20 and 30. By equating the schools in this size class more carefully with regard to size, differences in rates of teacher turnover *entirely disappeared.*

As a matter of curiosity, we also equated the schools in the smallest size-class (with fewer than ten teachers) more carefully with regard to size, even though their turnover rates (of .25 and .32 for reorganized and non-reorganized schools, respectively) were not significantly different. When the effect of difference in staff size was removed, turnover rates of the schools became nearly identical—.29 and .31 for the reorganized and non-reorganized high schools, respectively.

As far as our comparisons of groups of reorganized schools with groups of non-reorganized schools is concerned, then, we have found no reason to believe that the high schools in reorganized districts have lower rates of teacher turnover.

Changes In Rates of Turnover For Groups of Schools

The second form of analysis entailed observing changes in rates of teacher turnover for groups of schools before and after district reorganization. Unfortunately, our information is limited to a short span of time—from 1948 to 1952. Thus our evidence only permits us to draw conclusions about the short-range effects, not the long-range consequences, of reorganization on turnover rate.

We can illustrate our procedure in the following example. We selected every small high school in the state (with fewer than ten teachers) which had undergone district reorganization during the summer of 1949. There were 38 of these schools for which we had usable teacher turnover data. For these 38 schools we found the average rate of teacher turnover in the year preceding reorganization and in the first, second, third, and fourth years following district reorganization. The rates, as we computed them, follow:

Time from reorganization (in years)	−1	+1	+2	+3	+4
Teacher turnover rate	.28	.33	.31	.28	.29

We repeated this procedure for schools in three of the four size-classes; there were too few large high schools with 40 or more staff members to investigate. In each of the size-classes, we also examined the yearly rates for schools which had reorganized in the summers of 1948, 1950, and 1951. In the case of the schools which reorganized in the summer of 1948, we have no information regarding their rates of turnover *before* district reorganization, but we can show trends in turnover for five years following reorganization. On the other hand, data for the schools which reorganized in 1951 permit us to examine the trends in turnover for three years *prior* to district reorganization.

As we have looked at these series of trends in teacher turnover, we have observed four features bearing upon the effects of district reorganization.

Immediate Effects of Reorganization

1. At the beginning of the school year immediately following reorganization, rates of teacher turnover increase sharply in the smallest high schools of the state.

This is hardly surprising. District reorganization frequently means a drastic re-arrangement of teaching assignments and facilities, a transfer of residence for some teachers, an adjustment of administrative relationships, and generally a period of uncertainty and upset. For teachers who have any inclination to leave the school system, the reorganization period represents a logical time to go. From the standpoint of administrative officials, reorganization provides an ideal opportunity to rid the system of unwanted staff members.

The sharp increase in turnover immediately following reorganization does not appear in our data for the larger high schools of the state. Changes in rates of turnover for schools with ten or more teachers is neither substantial nor consistent in direction. This suggests that district reorganization has a greater impact upon school affairs in the small systems than in large systems of Illinois.

Comparison of Rates Before and After Reorganization

2. Rates of teacher turnover are generally *higher* in 1952 (the last year after reorganization for which we have data) than in the years before reorganization. In the case of small schools—with less than ten teachers—which reorganized in 1950, for example, the average rate of turnover immediately preceding reorganization was .24; in the third year following reorganization, the average rate was .35, an increase of 11 percentage points. In our illustrative data for the small, 1949—reorganized schools which we presented earlier, the increase from Year −1 to Year +4 amounted only to one percentage point. For all the remaining sets of data except one, the increases ranged from three to twelve percentage points. The exception is found in data based on only three schools, where a decrease in turnover occurred. In this case, however, the decline in turnover began well before reorganization took place.

It is curious to note the incidence of increase in teacher turnover following district reorganization in light of the fact that the average size of these high schools also has increased following reorganization. We have found in all of our studies that larger high schools have *lower* rates of teacher turnover. In this case, however, turnover has increased *in spite of* a general increase in staff size.

Nevertheless, we hesitate to conclude on the basis of our data that district reorganization increases teacher turnover rates. For one thing, we have no

assurance that the upward trend in turnover is permanent; it may well take more than the three, four, or five years which we have observed for the advantages of district reorganization to be realized. For another thing, the upward trend in turnover may not be unique to schools which have undergone district reorganization. It is entirely possible that teacher turnover is increasing in high schools across the state for reasons quite unrelated to reorganization. We have not studied this possibility yet. A third consideration which tempers our conclusion concerning the effects of district reorganization upon turnover leads us to the next feature of our data.

Fluctuations In Rates

3. Increases in turnover are remarkably small when viewed in the light of the extensive fluctuations in rates during the years for which we have data. Indeed, when we look at the data as a whole, the most striking feature is not the upward trend at all but the up-and-down fluctuations in rates over the entire time period. This fluctuation is equally observable in the years before reorganization and the years following reorganization. Reorganization of the school district appears to make no appreciable difference in the ebb and flow of turnover rates beyond the relatively minute trends we have noted above.

Summary

4. Clearly, district reorganization *does not* bring about an immediate and consistent decline in teacher turnover among Illinois high schools.

On this negative note we will close. Neither of our two forms of analysis have provided us with reason to believe that the reorganization of school districts in Illinois has solved the problem of teacher turnover in the short run. What the future will bring we cannot predict with confidence. As we have studied teacher turnover, we have come to feel that other factors (most of which are unknown to us at the present) play a major role in determining the level of teacher turnover in high schools and play it independently of the type of district organization of which the school is a part.

DETROIT PUBLIC LIBRARY

Public And Private School Graduates In College

Junius A. Davis
Emory University

and *Norman Frederiksen*
Princeton University and Educational Testing Service

IT SEEMS to be a common belief that students from public high schools tend to be handicapped academically in comparison with students from private schools. When freshman average grades of public and private school students are actually compared it is often found, on the contrary, that the *public* school group is superior. However, the mere comparison of mean grades does not provide an adequate answer to the problem because it does not take ability into account. The public school graduates might be superior with respect to grades because higher standards are employed in admitting them to college. The question we have undertaken to answer is how public and private school students *of similar ability* compare with respect to grades at Princeton. We have investigated the problem both for freshman and for sophomore grades.

Method

The method employed involves a statistical method called analysis of covariance.[1] This method permits the comparison of two or more groups with respect to achievement on some variable while holding constant the effect of one or more other variables which influence the first variable.

The study is based on all members of the class of 1955 who were candidates for the AB degree and for whom appropriate data were available. For the freshman year, 244 public and 389 private school graduates were involved, and for the sophomore year 236 public and 366 private school graduates. The measures of ability employed were the Converted School Grade and the Verbal Section of the College Board Scholastic Aptitude Test. The Converted School Grade is a predicted freshman average grade based on rank in secondary school class and adjusted on the basis of grades earned at Princeton by previous students from the particular school. The first-term freshman average grade was also used as an ability measure in comparisons of sophomore grades.

Results

Intercorrelations among the predictors and Freshman Average Grade for the public and private school graduates who completed the freshman year are given in Table 1, along with means and standard deviations. The average of the freshman average grades for public school graduates was found to be 2.8 and for the private school graduates 3.1—the boys from public school were found to earn better freshman grades, on the average.[2] (On the Princeton grading system, low numbers mean high achievement.) But if we compare public and private school boys *of equal ability*, which is superior?

Using the two predictors separately and in combination, the regressions of

[1]Harold Gulliksen, and S. S. Wilks, "Regression Tests for Several Samples," *Psychometrika* 15:91-114; 1950.

[2]Note that in the grading system used, "1" is the *highest* grade.

TABLE 1.—INTERCORRELATIONS OF PREDICTORS AND FRESHMAN AVERAGE GRADES FOR STUDENTS COMPLETING THE FRESHMAN YEAR

Variable	Group	CSG	SAT-V	FAG	N	Mean	Standard Deviation
Converted School Grade	Public	—	.23*	.55	244	2.80	.68
	Private	—	.34*	.65	389	3.06	.72
	Combined	—	.30*	.62	633	2.96	.72
SAT-Verbal	Public	.23*	—	.45*	244	593	73
	Private	.34*	—	.38*	389	592	78
	Combined	.30*	—	.40*	633	592	76
Freshman Average Grade	Public	.55	.45*	—	244	2.80	.83
	Private	.65	.38*	—	389	3.08	.79
	Combined	.62	.40*	—	633	2.97	.81

*Signs of starred correlation coefficients have been changed; a positive correlation now means that good performance on one variable is associated with good performance on the other. Princeton grades and CSG involve a scale from 1 to 7 on which low numbers represent superior achievement.

Freshman Average Grade on predictor variables for the public and private sub-groups were compared through the analysis of covariance method. The procedure permits a test of three hypotheses: (1) that the errors of estimate are equal, (2) that the slopes of regression lines or planes are equal, and (3) that the Y-intercepts are equal. The results of this analysis are given in Table 2.

When the Converted School Grade is the predictor, we find that no one of the hypotheses is disproved; we may assume equal errors of estimate, slopes of regression lines, and Y-intercepts. Public and private school students of equal ability as measured by CSG earn the same grades, on the average. The Converted School Grade, it will be remembered, is a prediction of the Freshman Average Grade based on secondary school rank in class which takes into account past records at Princeton of students from each particular school concerned. The covariance analysis shows that whatever basic difference there might be between public and private school graduates is adequately compensated for in computing the Converted School Grade.

When SAT-V is the predictor, we find that the hypotheses of equality of errors of estimate and slopes are not disproved. The intercepts, however, are significantly different (at the .001 per cent level of confidence). For a given level of ability as measured by SAT-V, the public school graduates earn better freshman average grades at

TABLE 2.—RESULTS OF ANALYSES OF COVARIANCE USING CONVERTED SCHOOL GRADE AND SAT-VERBAL SCORE TO PREDICT FRESHMAN AVERAGE GRADE FOR PUBLIC AND FOR PRIVATE SCHOOL GROUPS

Predictors	Probability of Obtaining by Chance a Difference as Great or Greater than that Obtained					
	Errors of Estimate		Slopes of Regression Lines or Planes		Y-Intercepts	
Converted School Grade	<.10	>.05	<.75	>.50	<.25	>.10
SAT-Verbal	<.995	>.990	<.250	>.100	<.001	
CSG and SAT-V	<.750	>.500	<.001		Not testable	

TABLE 3.—INTERCORRELATIONS OF PREDICTORS AND THE SOPHOMORE AVERAGE FOR STUDENTS COMPLETING THE SOPHOMORE YEAR

Variable	Group	TAG	CSG	SAT-V	SAG	N	Mean	Standard Deviation
Term	Public	—	.53	.49*	.74	236	2.89	.86
Average	Private	—	.60	.40*	.74	366	3.09	.79
Grade	Combined	—	.58	.43*	.74	602	3.01	.82
Converted	Public	.53	—	.24*	.52	236	2.76	.66
School	Private	.60	—	.33*	.57	366	3.06	.70
Grade	Combined	.58	—	.30*	.57	602	2.94	.70
	Public	.49*	.24*	—	.37*	236	592	73
SAT-Verbal	Private	.40*	.33*	—	.34*	366	590	77
	Combined	.43*	.30*	—	.34*	602	592	76
Sophomore	Public	.74	.52	.37*	—	236	2.67	.74
Average	Private	.74	.57	.34*	—	366	3.06	.71
Grade	Combined	.74	.57	.34*	—	602	2.90	.75

*Signs of starred correlation coefficients have been changed; a positive correlation now means that good performance on one variable is associated with good performance on the other. Princeton grades and CSG involve a scale from 1 to 7 on which low numbers represent superior achievement.

Princeton. This finding is in agreement with the results of a similar study carried out in three liberal arts colleges.[3]

When the Converted School Grade and SAT-V are used in combination as predictors, we find no significant difference in errors of estimate, but slopes of the regression planes are significantly different. Since a generalized slope cannot be assumed, the third hypothesis of equality of intercepts cannot legitimately be tested by this method.

In dealing with the question of differential performance of public and private school groups in the sophomore year of college, means, standard deviations, and intercorrelations were computed for the students who completed the sophomore year. These data are presented in Table 3. The public school group is seen in Table 3 to be superior to the private school group with respect to mean Term Average Grade, Converted School Grade, and Sophomore Average Grade. On SAT-V the two means are practically the same.

The difference between the two groups with respect to sophomore grades in relation to ability as measured by Term Average Grade is shown in Figure 1. This figure shows the regression lines of the Sophomore Average Grade on the term grade. For example, the expectation of a public school graduate with a first-term average of 3.00 is a sophomore-year average of 2.75, while the expectation of a private school graduate with the same first term record is 3.00, or about one-fourth of a grade group poorer. The slope of both regression lines in Figure 1 is the generalized slope based on both groups combined, as is justified by the analysis of covariance findings. The vertical bars superimposed on the regression lines show one standard error of estimate on each side of the regression line.

The results of the analysis of covariance are given in Table 4. For all the predictors of Sophomore Average Grade used singly, and for the term grade and Converted School Grade used in combination, we find that dif-

[3]Norman Frederiksen, and W. B. Schrader, *Adjustment to College* (Princeton: Educational Testing Service, 1951.)

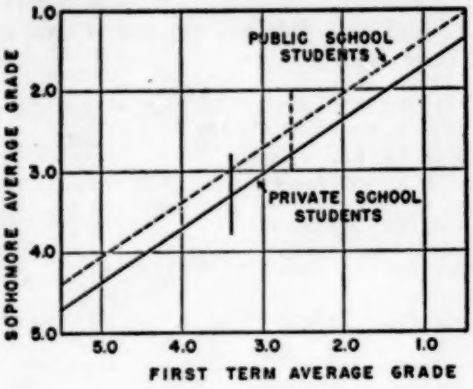

FIGURE 1. Prediction of Sophomore Average Grade in liberal arts at Princeton for public and private school graduates from the First-Term Freshman Average Grade. (Vertical bars show one standard error of estimate on each side of the regression line.)

ferences between public and private school students with respect to errors of estimate and slopes are not significant. In all these cases we do find, however, that the differences in intercepts *are* significant at the .001 per cent level. Public school graduates earned higher grades than private school graduates of equal ability, whether ability is measured by Term Average Grade, Converted School Grade, SAT-V, or the term grade and the Converted School Grade used in combination. (When ability is controlled by SAT-V and Converted School Grade in combination, the regression planes were found to be significantly different in slope.) Whatever superiority in college achievement (in relation to ability) which was possessed by the public school graduates in the freshman year is not lost in the sophomore year. Indeed, even when ability is controlled on the basis of achievement in the first term of the freshman year, the public school graduates are superior to the private school graduates in Sophomore Average Grade.

Discussion

Many hypotheses could be conceived of to account for the superiority of public school students.

One possibility is that private school training somehow improves ability to get high scores on aptitude tests without correspondingly improving ability to do college work. Direct coaching for the test would be the most obvious way to produce this effect. A recent study of the effects of coaching for the Scholastic Aptitude Test showed, however, that direct coaching is not likely to improve the score by any significant amount.[4] This hypothesis also does not account for the superiority of the public school graduates on sophomore grades when ability is measured by Converted School Grade and by first-term freshman average grade.

The superiority of the public school graduates might result from greater motivation. Students who go to public schools generally speaking come from families of lower socioeconomic status than do private school students. For them college may be a means to enhance their status, while for private school students (still generally speaking) high status of the family is already attained and it is only necessary to maintain it. The hypothesis of greater motivation for public school graduates seems tenable in accounting for their superiority in freshman grades.

An additional hypothesis is required to account for the public school graduates' superiority in the sophomore year, since both the Converted School Grade and first-term average (which were used in equating for ability in the sophomore grade comparison) presumably reflect any difference in motivation between the public and private school groups. The advantage of the

[4]Henry S. Dyer, "Does coaching help?", *College Board Review*, 19:331-335; 1953.

TABLE 4.—RESULTS OF ANALYSES OF COVARIANCE USING VARIOUS PREDICTORS AND COMBINATIONS OF PREDICTORS TO PREDICT SAG FOR PUBLIC AND FOR PRIVATE SCHOOL GROUPS

Predictors	Probability of Obtaining by Chance a Difference as Great or Greater than that Obtained				
	Errors of Estimate		Slopes of Regression Lines or Planes		Y-Intercepts
First-Term Average Grade	<.950	>.900	<.750	>.500	<.001
Converted School Grade	<.750	>.500	<.900	>.750	<.001
SAT-Verbal	<.950	>.900	<.500	>.250	<.001
TAG and CSG	>.995		<.975	>.950	<.001
SAT-V and CSG	<.950	>.900	<.001		Not testable

public school graduates in the sophomore year cannot then be accounted for wholly by motivation. Possibly the public school graduates have not been taught skills of organization and criticism to the extent that the private school boys have. If so, the public school boys have greater gains to make in this regard from their work throughout the freshman year, and the fruits of such gains may be shown in their superior performance in the sophomore year.

Summary

This study investigated differences in academic performance of public and private school graduates at Princeton University when ability, as measured by preadmissions data and by first-term performance, is held constant. It was found that on the average the public school graduates made a higher academic average for the freshman year, in relation to ability as measured by the Scholastic Aptitude Test—Verbal Section, than did private school graduates. The same was true for the sophomore year average when ability was measured by the average grade for the first term of the freshman year, by the College Board aptitude test, or by a measure based on secondary school rank in class.

The 1955 Teacher Supply and Demand Report

Prepared by the
NEA Research Division
At the Request of
The National Commission on Teacher Education and Professional Standards

A TOTAL of 86,696 members of the 1955 graduating class will come from college and university campuses with standard preparation to enter teaching in the elementary and high schools next September. Of this group 35,278 will have completed four years of college[1] preparation for service in the elementary schools, and 51,418 will have completed a like span of preparation for high school classroom service. But only 79 per cent, or about 27,800 of the potential elementary, and only 56 per cent, or about 29,000 of the potential high school teachers will actually find their way into classrooms when the new school year opens. These facts highlight this, the Eighth Annual National Teacher Supply and Demand report.

Will these new additions to the profession meet the demand? If not, where are other possibly productive sources of supply? What will be the total demand next September? How will this demand be divided (a) between elementary and high school, and (b) among the various subject-matter fields in highschool? What will be the qualifications of newly employed teachers who enter service with less than minimum standard preparation? Will the introduction of these inadequately trained teachers tend to pull down the level of preparation of the whole corps of teachers in a state? And, finally, what happens (vocationally) to those recent college graduates who are prepared to teach but are not doing so? These are some of the questions this annual national study seeks to answer.

The 1955 Teacher Supply and Demand Report is the eighth annual study of teacher supply and demand in the United States which has been conducted under the sponsorship of the National Commission on Teacher Education and Professional Standards. This report was prepared by the NEA Research Division in cooperation with the Commission. The 1955 report, like each of the preceding ones, was under the immediate supervision of Ray C. Maul. Dr. Maul is Assistant Director of the NEA Research Division.

The Commission expresses its appreciation to the Research Division and to Dr. Maul for their cooperation in the preparation of this important report.

The 1955 report is published exclusively in the Journal of Teacher Education.

The method of approach is a cooperative one involving, in a major way, the chief certification officer in each state department of education, who assumes primary responsibility in his state. Also involved are one or more officials on each college campus and a reporting official in each local school system.

The following report of the annual investigation is presented in four parts, as follows:

I. *The Supply of Teachers,* insofar as supply comes from the most recent group of graduates to emerge from the colleges with preparation for teaching.

II. *The Demand for Teachers,* insofar as demand is indicated by the employment of persons who the previous

[1]For convenience, the term "college" is used in this report to include all institutions of higher education in which students may earn the credits required for the standard teaching certificate.

year were not so employed.

III. *The Preparation of Elementary School Teachers,* as indicated by their college training.

IV. *The Occupation* of the most recent graduating class of eligible candidates.

The basic data for Parts I and IV must be assembled on each of more than twelve hundred campuses on which teacher-training programs are offered. This is accomplished by use of uniform reporting blanks furnished the local college officials by the authority in the state department office. The latter official collects these reports and consolidates them into one composite state report. The fact that some states do not yet participate in Part IV is explained by the absence of organized follow-up procedures on some college campuses. All colleges, however, participate in Part I.

The basic data for Parts II and III are derived from reports prepared annually in each local school district and submitted to the state department in conformance to the requirements for such reports in the various states.[2] Thus each local superintendent becomes a contributor to the study.

In many instances these data, immediately after they are correlated in the office of the state department, comprise an up-to-date state report which is distributed among college and public school officials within the state. In this way a picture of the current situation becomes available for immediate use. Year-to-year changes can be identified, interstate comparisons can be made, and educational planning can thus be strengthened.

This national study is limited to the four parts described above. It encourages the development, however, of many other studies of more detailed nature, as conditions in a particular state dictate. In one or more states, in addition to the basic parts comprising the national study, the following items of information are assembled to give a clearer picture of teacher supply and demand:

Reasons teachers quit teaching.

Reasons teachers move to teaching positions in other states.

Number of new teachers who are (a) inexperienced, (b) graduates of colleges in the state, (c) graduates of out-of-state colleges, (d) graduates of earlier years, (e) former teachers, (f) returning veterans.

Recency of training of former teachers and other new teachers who are not members of current graduating class.

Age, sex, and marital status of all teachers in service (elementary and high school separate).

Source, preparation, experience, age, sex, and marital status of new teachers coming from out of state.

Number of graduates of colleges within state accepting positions in other states.

Strength of preparation of high school teachers in subjects taught.

Number and preparation of teachers holding nonstandard certificates.

Progress of nonstandard certificate holders toward standard certification through in-service and summer session study.

Number of pupils affected by the employment of nonstandard certificate holders.

Class size: number in excess of 25, 30, and 35 pupils; number of additional teachers needed to reduce overcrowded classes to designated sizes.

Number of pupils attending less than full-day sessions (excluding kindergarten).

Number of college students pursuing teacher-education programs.

These are but some of the many items of information sought as a basis for clearer understanding of the implications of the supply-demand problem. The resourcefulness and zeal of researchers in state departments, colleges, and local school systems indicate the sincerity of their interest and concern.

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[2]Only in Massachusetts are local districts not required to prepare an annual report in which these data are, or may be, included.

Part I—Supply of Teachers

How many qualified applicants will be available to enter the teaching service in September, 1955? Without doubt this question is prominent in the thinking of superintendents and school boards in almost every school district in America today. Experience in recent years has proved conclusively that the supply will not be equal to the demand, that competition will be keen for the fully trained candidates of good personality, and that many employing officials will have to be content with candidates lacking in training and, in many cases, with uncertain prospect of success in the classroom. Such is the plight of the elementary schools. And instead of anticipating early relief, local districts must prepare themselves for an extension of this shortage into the high schools.

The shortage of qualified teachers is not an isolated fact; it is part of a general shortage of trained, specialized workers now being dramatized by the critical need for engineers and other personnel in the technological fields. These hard facts stand out:

1. Fewer graduates are coming from the colleges today than at any time during the past five years.

2. The general demand for college trained personnel has been stepped up since the end of World War II; the young man who expects to take just a few steps up the promotional ladder must have a college degree.

3. Opportunities for the college trained woman are expanding; school teaching has lost its prior claim to the services of the educated woman.

4. Our concept of necessary national defense—the permanent military establishment — has been completely overhauled since 1950. We now foresee the call for two years of service by three million men. It is hardly correct to say that they are mobilized; in truth they are *immobilized* inasmuch as they are not available (a) to participate in civilian occupational life, or (b) to pursue advanced training for work in the professions.

5. Fewer youth are coming to maturity; in 1954 the total number of 18-21 year olds was less than eight million, while in 1945 it was more than nine million.

6. We cannot add to the total of our limited manpower supply—we can only seek to improve our efficiency in utilizing the talents of each young man and woman as maturity is reached.

7. Our best efforts to date have brought to college graduation no more than half of those who ranked in the top quarter of their high school graduating classes.

The present and future supply of qualified teachers must be viewed in relation to these facts and, unhappily, the general public has not yet come to sense their impact upon the educational system.

Where Do Teachers Come From?

As vacancies occur and as new teaching positions are created, the most obvious source of available candidates is, of course, the emerging class of college graduates. The 1955 crop, described later in this report, will nowhere nearly equal the demand next September. Where then, will the others come from? Alert employing officials will re-examine these sources.[3]

1. *The present staff.*—As many as 60,000 elementary school teachers quit the classroom each year. Every good teacher who is retained, therefore, forestalls the need for a replacement. A systematic program designed so to

[3]After those in the more favored districts have raided the staffs of their less fortunate colleagues, but it must be remembered that a teacher transferring to another position never meets a demand; he only shifts the demand to another location.

improve conditions that this annual loss will be reduced is a "first" in the search for teachers.

2. *Qualified former teachers.*—Many superior teachers leave the classroom for family reasons, to enter military service, to resume formal study, or to try other occupations. They comprise a "first reserve" and the alert superintendent who finds them among the general population in his community cashes a rich dividend.

3. *College graduates with no, or inadequate professional preparations.*—The teaching profession has benefited enormously during the past decade by inviting into the classroom, with no more than a touch of "last-minute" professional preparation, a large number of broadly educated persons holding the bachelor's degree, but who had no thought of preparing for teaching while doing under-graduate work. The "conversion" programs, by which these persons were hastily introduced to a few of the minimum professional essentials, started as no more than a summer session gesture. They have developed, however, until now many fifth-year programs of academic and professional respectability are available.

4. *The present corps of partially prepared teachers whose limited certificates will expire this year.*—The 1950 National Teacher Supply and Demand Report showed only 57 per cent of all elementary school teachers holding bachelor's degrees, 36 per cent having between 60 and 119 semester hours of college credit, and 17 per cent with less than 60 hours. This (1955) report shows 67.6 per cent with bachelor's degrees, 36.3 per cent with 60-119 hours, and only 6.1 per cent with less than 60 hours. Many factors, of course, have contributed to this tremendous upgrading achievement, but the *improvement of the partially prepared teacher* while she remained in service and worked toward the standard certificate has been a distinguishing characteristic of this movement.

5. *Returning veterans.*—This is perhaps the most neglected of the promising reservoirs of supply. Part IV of this report shows that about 18 per cent of the men in the 1954 class of qualified candidates entered military service instead of the classroom. It seems that a systematic follow-up of these potential educational leaders of the next generation remains to be organized.

6. *Candidates of uncertain fitness.*—The urgent demand for teachers being what it is, many employing officials will still be empty handed after plumbing the above mentioned sources of supply. The extent to which these school officials seek emergency licensing of unqualified candidates is often dictated by purely local circumstances. In some states, however, the lag in the professional standards movement makes for the continuance of the educational neglect of children on a state-wide basis.

The 1955 Graduating Class

Table 1 shows the total number of members of the 1955 graduating classes who will qualify (a) for elementary school teaching, and (b) for each of the high school subjects. Prospective elementary school candidates are reported at the 120, 90, 60, and 30-semester-hour levels because one or more states regularly issue certificates at these levels of preparation. For professional considerations, of course, only college graduates should be included.

The true production of qualified candidates in 1955 will be 4,869 men and 30,409 women—a total of 35,278—for elementary school positions, and 26,967 men and 24,451 women—a total of 51,418— for high school positions. The grand total of 86,696 degree graduates compares favorably with the 85,801 to emerge from the colleges in 1954. It indicates, significantly, that we have "touched bottom." With total college enrollments in an uptrend, the prospect is bright for a gradual, if modest, improvement in the available supply of qualified candidates. Part II of this report shows, however, that this total number is nowhere equal to the demand, and Part IV shows that school

TABLE 1.—TOTAL NUMBER OF COLLEGE AND UNIVERSITY STUDENTS COMPLETING CERTIFICATE REQUIREMENTS, ACCORDING TO REGULATIONS OF EACH OF THE 48 STATES, ALASKA, DISTRICT OF COLUMBIA, AND HAWAII, BY SEX, IN 1955 COMPARED TO THE NUMBER WHO MET SUCH REQUIREMENTS IN 1954

Type of Preparation	1955			1954 to 1955		
	Men	Women	Total	1954 Total	Net Change	Per Cent Change
Elementary School Teaching:						
120 semester hours	4,869	30,409	35,278	36,885	—1,607	—4.36
90 semester hours	135	1,389	1,524	1,750	—226	—12.91
60 semester hours	586	5,220	5,806	5,379	+427	+7.94
30 semester hours	136	1,024	1,160	903	+257	+28.46
Elementary Total	5,726	38,042	43,768	44,917	—1,149	—2.56
High School Teaching:						
Agriculture	1,648	19	1,667	1,541	+126	+8.18
Art	701	1,255	1,956	1,856	+100	+5.39
English	1,909	2,907	4,816	4,076	+740	+18.16
Commerce	1,871	3,526	5,397	5,278	+119	+2.25
Foreign Language	462	819	1,281	1,368	—87	—6.36
Home Economics	6	4,101	4,107	4,212	—105	—2.49
Industrial Arts	2,208	30	2,238	2,201	+37	+1.68
Journalism	40	40	80	62	+18	+29.03
Library Science	36	271	307	317	—10	—3.15
Mathematics	1,447	803	2,250	2,223	+27	+1.21
Music	1,963	2,532	4,495	4,323	+172	+3.98
Physical Education (Men)	5,059	——	5,059	4,834	+225	+4.65
Physical Education (Women)	——	2,558	2,558	2,440	+118	+4.84
General Science	1,217	473	1,690	1,604	+86	+5.36
Biology	885	486	1,371	1,343	+28	+2.08
Chemistry	465	137	602	481	+121	+25.16
Physics	207	42	249	213	+36	+16.90
Social Science	5,236	2,579	7,815	7,227	+588	+8.14
Speech	568	869	1,437	1,253	+184	+14.68
Other	1,039	1,004	2,043	2,064	—21	—1.02
High-School Total	26,967	24,451	51,418	48,916	+2,502	+5.11
GRAND TOTAL	32,693	62,493	95,186	93,833	+1,353	+1.44

employing officials lack the inducements to attract many of these college graduates into teaching.

Appendix A shows the full 1955 "supply," state-by-state. Table 2 contains a summary of the state reports, by sex, but does not show the high school candidates by field of major preparation.

The net change from 1954 to 1955 is a decrease of 1,607 in the elementary school group and an increase of 2,502 in the high school group, for a total net increase of 895. Among the states, however, the net change varies considerably. In the elementary school group California enjoys the greatest gain—866—while New York sustained the greatest loss—517. Among the other states only Michigan[4] showed a substantial gain of 199. States dropping as many as 100 are Georgia, Illinois, Massachusetts, Missouri, New Jersey, Ohio, Virginia, Washington, and Wisconsin. In all of the other states the net change was nominal.

[4]Alabama gained 105 in the production of white qualified candidates but lost 444 in the Negro group.

TABLE 2.—TOTAL NUMBER OF COLLEGE AND UNIVERSITY DEGREE CANDIDATES, BY SEX AND BY STATE, WHO ARE COMPLETING CERTIFICATE REQUIREMENTS IN EACH STATE, IN 1955, AND NET CHANGE FROM 1954
(THIS TABLE DOES NOT INCLUDE STUDENTS MEETING CERTIFICATE REQUIREMENTS AT 90-, 60-, OR 30-HOUR LEVELS)

State	Prepared for Elementary School Teaching					Prepared for High School Training				
	Graduates of 1955			Total and Net Change		Graduates of 1955			Total and Net Change	
	Men	Women	Total	1954	1954 to 1955	Men	Women	Total	1954	1954 to 1955
1	2	3	4	5	6	7	8	9	10	11
Alabama (White)	32	404	436	331	+105	459	457	916	809	+107
Alabama (Negro)	11	216	227	671	—444	179	273	452	472	—20
Alaska	5	4	9	8	+1	1	2	3	5	—2
Arizona	56	269	325	335	—10	179	100	279	255	+24
Arkansas	35	461	496	485	+11	439	393	832	769	+63
California	739	3,418	4,157	3,291	+866	2,537	1,597	4,134	3,520	+614
Colorado	78	464	542	532	+10	467	356	823	1,011	—188
Connecticut	99	308	407	413	—6	192	176	368	363	+5
Delaware	2	37	39	62	—23	22	25	47	47	0
District of Columbia	3	106	109	111	—2	95	102	197	175	+22
Florida	58	691	749	817	—68	462	337	799	857	—58
Georgia (White)	15	254	269	553	—284	162	216	378	464	—86
Georgia (Negro	20	384	404	487	—83	110	112	222	261	—39
Hawaii	3	87	90	79	+11	17	35	52	40	+12
Idaho	11	91	102	120	—18	138	126	264	238	+26
Illinois	346	1,535	1,881	2,030	—149	1,541	1,079	2,620	2,449	+171
Indiana	76	606	682	740	—58	845	628	1,473	1,414	+59
Iowa	38	337	375	350	+25	623	585	1,208	1,190	+18
Kansas	47	389	436	445	—9	551	436	987	796	+191
Kentucky	131	414	545	598	—53	528	457	985	1,006	—21
Louisiana (White)	84	490	574	513	+61	430	382	812	694	+118
Louisiana (Negro)	96	544	640	542	+98	272	253	525	307	+218
Maine	60	125	185	263	—78	136	93	229	238	—9
Maryland	45	328	373	359	+14	253	240	493	417	+76
Massachusetts	154	1,062	1,216	1,335	—119	610	592	1,202	1,230	—28
Michigan	265	1,710	1,975	1,776	+199	1,069	1,006	2,075	1,745	+330
Minnesota	63	481	544	577	—33	776	603	1,379	1,408	—29
Mississippi (White)	16	169	185	191	—6	374	374	748	624	+124
Mississippi (Negro)	11	138	149	84	+65	113	135	248	210	+38
Missouri	73	680	753	993	—240	416	415	831	847	—16
Montana	38	31	69	112	—43	143	126	269	258	+11
Nebraska	50	251	301	365	—64	346	244	590	568	+22
Nevada	3	32	35	35	0	26	14	40	37	+3
New Hampshire	14	73	87	102	—15	80	56	136	144	—8
New Jersey	62	452	514	672	—158	260	360	620	746	—126
New Mexico	50	137	187	210	—23	133	88	221	239	—18
New York	546	3,371	3,917	4,434	—517	1,558	1,825	3,383	3,512	—129
North Carolina (White)	38	658	696	716	—20	554	769	1,323	1,221	+102
North Carolina (Negro)	77	512	589	550	+39	272	400	672	504	+168
North Dakota	17	58	75	63	+12	210	176	386	324	+62
Ohio	124	1,049	1,173	1,292	—119	1,065	1,049	2,114	2,216	—102
Oklahoma	63	610	673	759	—86	783	631	1,414	1,285	+129
Oregon	143	404	547	533	+14	312	193	505	431	+74
Pennsylvania	165	1,265	1,430	1,445	—15	1,433	1,290	2,723	2,719	+4
Rhode Island	2	75	77	95	—18	74	41	115	139	—24
South Carolina (White)	7	215	222	221	+1	244	362	606	518	+88
South Carolina (Negro)	24	334	358	362	—4	188	148	336	268	+68
South Dakota	9	79	88	112	—24	223	169	392	354	+38
Tennessee	78	616	694	714	—20	733	824	1,557	1,581	—24
Texas	226	1,640	1,866	1,792	+74	2,102	2,026	4,128	3,892	+236
Utah	93	393	486	402	+84	308	208	516	400	+116
Vermont	27	95	122	123	—1	45	47	92	124	—32
Virginia (White)	6	341	347	436	—89	203	390	593	555	+38
Virginia (Negro)	7	148	155	176	—21	147	146	293	299	—6
Washington	179	474	653	767	—114	516	300	816	758	+58
West Virginia (White)	40	203	243	318	—75	279	268	547	560	—13
West Virginia (Negro)	4	39	43	60	—17	71	56	127	120	+7
Wisconsin	104	629	733	901	—168	618	632	1,250	1,222	+28
Wyoming	1	23	24	29	—5	45	28	73	61	+12
TOTAL	4,869	30,409	35,278	36,885	—1,607	26,967	24,451	51,418	48,916	+2,502

In the high school group California gained most, with 614; Louisiana gained 336; Michigan gained 330; North Carolina gained 270; Texas gained 236; and Illinois, Kansas, Mississippi, Oklahoma, and Utah also gained substantially. On the losing side are Colorado, New York, New Jersey, and Ohio with decreases of 100 or more.

Table 3 shows that the alarming changes in the high school supply since 1950 are not only in total numbers—a drop of 40.8 per cent, *but in the distribution* of this decrease among the high school teaching fields.

In Table 3 these teaching fields are arranged according to the five-year percentage decrease. The range of this drop in high school teacher supply is from 12.1 per cent in art to 57 per cent in science. The critical nature of this sensational fall in the supply of qualified new high school science teachers becomes clearer when it is recalled that there was no oversupply in this field in 1950. True, the total group of 86,890 possible candidates outnumbered the total need, but the greatest concentration at that time was in men's physical education and social science, not in science or mathematics, the two fields that are most intimately related to the continual progress of American technology.

TABLE 3.—NUMBER OF COLLEGE GRADUATES; NUMBER PREPARED TO TEACH IN EACH HIGH SCHOOL FIELD; NUMBER PREPARED TO TEACH IN ELEMENTARY SCHOOL; PERCENT OF YEAR-BY-YEAR CHANGE, 1950-1955

College Graduates	1950	1951	1952	1953	1954	1955
Receiving bachelor's degrees	433,734	384,352	331,924	304,857	292,880	284,500[a]
Percent change from 1950	—	−11.4%	−23.5%	−29.7%	−32.5%	−34.4%[b]
Prepared to teach in high school:						
Majors in ART	2,225	2,296	2,249	2,019	1,856	1,956
Percent change from 1950	—	+3.2%	+1.1%	−9.3%	−16.6%	−12.1%
Majors in MUSIC	5,296	4,652	4,882	4,641	4,323	4,495
Percent change from 1950	—	−12.2%	−7.8%	−12.4%	−18.4%	−15.1%
Majors in HOME ECONOMICS	4,899	4,640	4,648	4,282	4,212	4,107
Percent change from 1950	—	−5.3%	−5.1%	−12.6%	−14.0%	−16.2%
Majors in WOMEN'S PHYSICAL EDUCATION	3,178	2,562	2,607	2,485	2,440	2,558
Percent change from 1950	—	−19.4%	−18.0%	−21.8%	−23.2%	−19.5%
Majors in COMMERCE	7,235	5,750	5,165	4,571	4,076	4,816
Percent change from 1950	—	−20.5%	−28.6%	−36.8%	−43.7%	−33.4%
Majors in FOREIGN LANGUAGE	2,193	2,133	1,859	1,519	1,368	1,281
Percent change from 1950	—	−2.7%	−15.2%	−30.7%	−37.6%	−41.6%
Majors in SOCIAL SCIENCE	15,349	12,178	9,406	8,149	7,227	7,815
Percent change from 1950	—	−20.7%	−38.7%	−46.9%	−52.9%	−49.1%
Majors in AGRICULTURE	3,294	2,404	1,891	1,601	1,541	1,667
Percent change from 1950	—	−27.0%	−42.6%	−51.4%	−53.2%	−49.4%
Majors in ENGLISH	10,709	9,461	8,211	7,166	5,278	5,397
Percent change from 1950	—	−11.7%	−23.3%	−33.1%	−50.7%	−49.6%
Majors in MATHEMATICS	4,618	4,118	3,142	2,573	2,223	2,250
Percent change from 1950	—	−10.8%	−32.0%	−44.3%	−51.9%	−51.3%
Majors in MEN'S PHYSICAL EDUCATION	10,614	8,179	6,546	5,416	4,834	5,059
Percent change from 1950	—	−22.9%	−38.3%	−49.0%	−54.5%	−52.3%
Majors in INDUSTRIAL ARTS	4,890	4,284	3,161	2,570	2,201	2,238
Percent change from 1950	—	−12.4%	−35.4%	−47.4%	−55.0%	−54.2%
Majors in SCIENCE	9,096	7,507	5,246	4,381	3,641	3,912
Percent change from 1950	—	−17.5%	−40.3%	−51.8%	−60.0%	−57.0%
Total prepared to teach in high school	86,890	73,015	61,510	54,013	48,916	51,418
Percent change from 1950	—	−16.0%	−29.2%	−37.8%	−43.7%	−40.8%
Total prepared to teach in elementary school	28,587	33,782	37,649	37,430	36,885	35,278
Percent change from 1950	—	+18.2%	+31.7%	+30.9%	+29.0%	+23.4%
Grand total prepared to teach	115,477	106,797	99,159	91,443	85,801	86,696
Percent change from 1950	—	−7.5%	−14.1%	−20.8%	−25.7%	−24.9%

[a] Estimate. [b] Calculated on estimate.

Part II—The Demand for Teachers

The American public school system faces a larger task than ever before, as citizens everywhere come to a sober realization of what a continuous two-world struggle means. If we are to retain our leadership in the battle with communism we must make more effective use of our greatest advantage—the free use of the intellectual powers of our people. The lavish waste of much of our human resources must be halted. With the tremendous weight of manpower in the hands of those who would destroy us, we must sharpen our search for the youth who can profit through more extended preparation, and thus make a larger contribution to our national defense, welfare, and progress.

If public education is to measure up to this new challenge, then the quality, as well as the total number of available instructional personnel must be reviewed. Recent gains in the professional standards movement must not only be consolidated, but greatly extended.

What, then, is a realistic measure of the "demand for teachers?" Two completely opposite points of view must be recognized and examined. On the one hand is the age-old presumption that, since every classroom must be kept open, the employment of any available person must be condoned. From the origin of the public school concept it has been taken for granted that, although a qualified, competent person will be sought an untrained, incompetent person will be acceptable as a last resort. The mass herding of children in unmanageable groups is permitted because, unhappily, the tragic educational results cannot be measured until later years.

But another concept of the role of the teacher is emerging. A rapidly growing number of communities and states are insisting that every teacher be adequately prepared and professionally competent. Only then will every child have an opportunity for the full development of his individual talents. Only then can the nation look forward to the full utilization of its intellectual potential.

The implementing of this latter concept of the role of public education requires not only a reappraisal of the demand for teachers in terms of numbers, but also in terms of educational programs. It has long been recognized, for example, that many elementary schools are wholly without the services of teachers prepared to organize and offer effective instruction in, say, remedial reading and speaking, in health and hygiene, in an introduction to handcrafts, to say nothing of developing aesthetic tastes and appreciations. But recent worldwide changes are now bringing into view the woeful inadequacies of many high school programs. One timely example is especially in point. Nearly one-half of the high schools in operation now provide no (or infrequent) instruction in chemistry, or physics, or mathematics beyond introductory algebra. Thus the youngster with native ability in the desperately needed fields of science and technology goes undiscovered—and his talents lost. This paucity of offerings may be charged in part to outmoded district organization—the continuance of many high schools with fewer than 200, even fewer than 100 students — but sharply curtailed programs are found in many high schools where lack of qualified teachers is the real cause. Too often the call for certain subjects dwindles, not because of lack of ability or interest on the part of students, but because an incompetent, unprepared teacher, assigned a class outside his own major interests, fails to fire the imagination and the enthusiasm of talented students. Surely a realistic measure of the demand for teachers is incomplete without assessing the factors implied by this brief review.

The Demand for Elementary School Teachers

If the elementary school system is to meet its responsibilities, the demand for qualified, competent teachers must be met in each of these five areas:

1. To meet the demand for replacement of those who quit teaching.
2. To meet the demand of growing enrollments.
3. To reduce oversize classes and to eliminate half-day sessions.
4. To offer the essential programs of instruction in all schools.
5. To relieve the untrained, incompetent persons now holding teaching positions.

Replacement demands. — In the school year 1954-55 there are in service approximately 690,000 elementary and 375,000 high school teachers. The exact number who quit teaching each year is not known, but close observation justifies an estimate of not less than eight percent. This would mean some 55,000 elementary and 30,000 high school—a total of 85,000—replacements just to keep in operation a constant number of classrooms. This need alone, therefore, would require every member of the graduating class to enter classroom service, and thus leave no new supply to meet any of the following four needs.

Expanding enrollment demands.—It is common knowledge that each September for the next several years will see the elementary school enrollments expand by as many as one million pupils. Much of this increase will occur in districts now maintaining overcrowded classrooms. In many classes the adding of just a few more children will be impossible. And it follows, also, that these "additions" will not be ideally concentrated for grouping into new classes of reasonable size. True, some of them can enter small classes now operating in isolated places; true, also, some districts maintaining small classes can be consolidated. But a realistic measure of the teachers in demand to serve increased enrollments cannot be placed at less than 30,000 per year for the next six years.[5] Just this need alone would require nearly all of the 1955 college graduating class members who will be fully prepared to become elementary school teachers.

Overcrowding demands. — While there is no general agreement on optimum class size, it is obvious that (a) many classes are so large as to defy effective educational efforts, and (b) many highly competent, devoted teachers, frustrated by their inability to meet the individual needs of their pupils, quit the classroom and thus add to the shortage.

Many educationally indefensible situations are the result of a quarter century of makeshift steps to "meet an emergency." The 1930-40 decade was marked by a frantic search for economies through retrenchments of all kinds. In 1940-50 it was all-out national defense and readjustment. In 1950-55 it has been the avalanche of small children. Throughout this time the emphasis has been upon "meeting an emergency." Today the situation is completely out of hand in many places. We stand in danger of investing vast sums in physical plant expansion, then forfeiting true educational results by herding children into classes of ever-growing size.

A recent sampling study showed 86 per cent of the elementary school classes in excess of 25 pupils; 62 per cent in excess of 30 pupils; 27 per cent in excess of 35 pupils, and 6 per cent in excess of 40 pupils. In the largest cities included in the study the situation is worse, with 92 per cent of the classes having more than 25 pupils; 76 per cent having more than 30 pupils; 39 per cent having more than 35 pupils, and

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[5] In 1954 total births crossed the four million mark for the first time in America. Six years later this "crop of babies" will enter the first grade. At this moment there is no evidence that the annual birth rate will fall after 1954, or even remain on a plateau at its present high level.

11 per cent having more than 40 pupils. One may well ask, how much can these children accomplish, and how long may the conscientious teacher be expected to persevere?

Classroom shortage, along with the insufficient supply of teachers, has brought about the growing "expediency" of half-day sessions. Tragically, this practice is most widespread at the lower grade levels—among the smaller children least prepared to compensate effectively through individual, undirected effort. The number of children affected by the reduction of the school day in this manner is approaching one million, with the immediate prospect of further resort to this practice.

The realistic demand for relief from these educational inequities would surely require the services of all qualified members of the 1955 class of college graduates.

Demands for added services.—Only fragmentary evidence is available, but close observation brings into focus the need for an intensive study of the present and future objectives of public education. This need is being dramatized at the moment through the obvious shortage of scientists, engineers, and technicians. The weakness has its roots, of course, in the elementary school program of instruction. Any serious effort at improvement finds the critical shortage of qualified, competent teachers athwart its path.

Demands to relieve the untrained.—The next section of this report points up the lack of preparation within the elementary school corps. At the bottom are some 40,000 teachers with so little preparation that their replacement should be a "first" in the defense of the children they are attempting to teach.

Table 4 shows the number of new elementary school teachers employed last September in 31 states[6] to be 32,984. Four other states (reporting totals but not dividing the new teachers into the groups required for inclusion in Table 4) bring this figure to 52,696. In these 35 states there are, in all, 518,855 elementary school teachers in service. The new teachers represent 10.2 per cent of this total. Assuming that the 35 reporting states are typical, the employment of 70,403 new elementary school teachers is indicated. This would mean, first, the replacement of some 60,000 who quit teaching and would thus indicate the employment of *only some 10,400 toward meeting all of the last four categories of demand* which are described above. This figure of 70,403 would point to the employment last September of almost exactly twice as many new elementary school teachers as the total number of qualified candidates in the 1954 college graduating class.

The Demand for High School Teachers

The demand for new high school teachers has been about constant for two decades, until recently. This demand has been for the replacement of those who quit the classroom, so that the same number of instructional units could be maintained from year to year. In fact, the total number of students enrolled has dropped, year by year, for a decade, until 1952.

Now the first small waves of the impending tide are lapping at the high school doors. The total increase to date has hardly been enough to exert an important influence on the total annual demand for teachers. But the time for the big increase is at hand. Student enrollments will expand sensationally, year by year.[7] And meanwhile the total number of qualified graduates to emerge from the colleges has been backing down—41 per cent since 1950—with the prospect of disaster for the high school if the "supply" trend is not sharply and decisively reversed.

Table 4 shows the number of new high school teachers employed last Sep-

[6]Individual state tables will be found in Appendix B.

[7]The biggest group of babies to be born in one year—four million in 1954—will bring the ninth grade to a new peak in 1968.

TABLE 4.—DEMAND FOR TEACHERS IN SEPTEMBER, 1954, IN 30 STATES AND THE DISTRICT OF COLUMBIA, AND THE SUPPLY PRODUCED BY COLLEGES IN THE SAME AREAS IN 1953-54

TABLE 4.--DEMAND FOR TEACHERS IN SEPTEMBER, 1954, IN 30 STATES AND THE DISTRICT OF COLUMBIA, AND THE SUPPLY PRODUCED BY COLLEGES IN THE SAME AREAS IN 1953-54

Based on reports from: Alabama, Arizona, Arkansas, Connecticut, District of Columbia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Washington, and Wisconsin.*

This table shows the number of persons who entered teaching positions in September, 1954, who did not teach anywhere in 1953-54. Lines 1-21 show new high school teachers. The major assignment is tallied on the line and the minor assignment in the column. Line 22 shows new elementary school teachers. The column at the extreme right shows the supply of degree graduates produced in 1954 by colleges in these areas. No person is counted twice.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	Composite of 30 states, and District of Columbia	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.--Men	13 Phys. Ed.--Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	415		2	1			12			19		7		35	41	7	4	10	1	7	561	906
2	Art	3	365	2	30		6			4	3	11		3	1	2			15	3	6	454	755
3	Commerce	6	29	1414	95	5	12	5	7	15	46	9	31	27	10	1		1	96	5	21	1,835	2,043
4	English	12	23	49	2091	255	25	2	60	119	65	59	21	72	56	4	2	1	551	168	33	3,668	2,871
5	Foreign Language	1	2	3	106	271	15			5	7	6	1	4	4	4			36	2	3	470	651
6	Home Economics	1	11	13	55	5	1572	4	4	6	7	4		70	104	44	14	1	35	2	24	1,976	2,266
7	Industrial Arts	7	8	6	6		1	720	1	1	39	2	41	4	21	1	1	8	36		31	934	1,129
8	Journalism				12	2			25					2	1							42	43
9	Library Science	2			54	2	1		2	253	2			1	5			1	17		6	346	116
10	Mathematics	5	1	19	48	10		15		5	1065	11	66	21	292	27	41	63	110	4	11	1,814	1,160
11	Music	1	27	12	95	5	3	3		4	14	1321	3	14	10	3		1	45	2	16	1,579	2,171
12	Phys. Ed.--Men	5		9	10	1		10			33	1	766	22	85	47	5	9	184	1	19	1,207	2,463
13	Phys. Ed.--Women	2	6	10	50		6			1	11	3	3	701	33	18	2	3	57	1	16	923	1,204
14	General Science	7	1	4	31	7	7	6		2	189	4	60	22	746	78	18	17	87	1	16	1,303	836
15	Biology	6		2	9	2	7	1		2	20	2	20	12	44	259	34	15	23		14	472	793
16	Chemistry	1			2		2				16	1	7	1	25	67	148	18	7		1	296	303
17	Physics	1			5			1		1	14		4	1	14	5	17	122	6			191	111
18	Social Science	14	6	42	254	28	7	11	8	12	86	14	146	40	75	24	6	7	1657	15	38	2,490	3,810
19	Speech	1		1	40	4	1		3	3		2	3	1	2			1	5	171	11	249	590
20	Other	3	1	7	24	4	2	1		2	27	2	7	4	6	5		2	25		959	1,081	589
21	High School Total																					21,891	24,810
22	Elementary School Total																					32,984	17,586

*Each state report is shown separately in Appendix B.

tember in 31 states[8] to be 21,891. Four other states (reporting totals but not dividing the new teachers according to assignment, as required for inclusion in Table 4) bring this figure to 32,433. In these 35 states there are, in all 268,533 high school teachers in service. The new teachers represent 12.1 per cent of this total. Assuming that the 35 reporting states are typical, the employment of 45,497 new high school teachers is indicated. It is not possible to determine how many of this total are replacements and how many are additions, but it is clear that this figure is dangerously close to the total of 48,916 members of the 1954 college graduating class who were prepared for high school teaching. And as will be shown in Part IV of this report, only 55.7 percent of the eligible group in the 1954 class actually took teaching jobs.

The fact is clear that total demand is now in almost perfect (theoretical) balance with the supply to come from the colleges. The critical factors, however, are (a) the demand is about to leap up in accordance with expanding high school enrollments, (b) the number of eligible college graduates has been in a steady downtrend and shows signs of no more than stabilizing at the present low level, and (c) no more than about half of the eligible college graduates can be attracted to teaching.

Demand Data Useful in Counseling High School and College Students

Table 4 contains much information of first importance to students inclined toward high school teaching, as they seek a basis on which to choose a major and desirable minor fields. The table shows not only the *number* of new applicants to get jobs, but also the *specific nature* of the teaching assignment of each new teacher. For example, line 1, column 21 shows the employment of 561 new agriculture teachers last September of whom 415 (line 1, column 1) have full-time assignments in this subject. Of the others, 12 (line 1, column 7) have minor assignments in industrial arts; 19 (line 1, column 10) have minor assignments in mathematics; 35 (line 1, column 14) in general science. As another example, 3,368 new English teachers (line 4, column 21) were employed, of whom 2,091 (line 4, column 4) teach full-time English, while 551 (line 4, column 18) have minor assignments in social science. Among the 2,490 new social science teachers (line 18, column 21), however, only 254 (line 18, column 4) have minor assignments in English.

In the column at the extreme right is shown the number of college graduates of the previous spring who have major preparation in each of the subjects at the extreme left of the table.

On line 22 is shown the total number of new elementary school teachers, compared with the total number of qualified graduates of the previous spring.

Table 4 shows the "average" distribution of opportunities among the various teaching fields and combinations. These data should be balanced against the situation in a given state in which the student is interested. The individual state tables are shown in Appendix B.

[8]Individual state tables will be found in Appendix B.

Part III—Analysis of the Preparation of Elementary School Teachers

As is pointed out in the preceding section, any meaningful measure of the demand for teachers must take into account a specific need to replace persons of wholly inadequate preparation who are now attempting to serve in the classroom. Until such demand is met it should, in defense of the educational rights of children, take precedence over all other demands. Despite the justice of this prior claim, however, public recognition of it continues to lag.

Without question, the attention of the public to an educational inequity can be challenged by a clear, unbiased presentation of the facts. It seems probable that much of the recent public support of the professional standards movement can be attributed to the growing realization that there are vast differences in the educational opportunities of children, depending upon a factor quite beyond their control—where they are born, and where they attend elementary school. In some states, for example, it is almost certain that *every* child in *every* elementary school will have a teacher whose broad, general education is at least implied by four years of college attendance, with scholarship sufficient to win the bachelor's degree. Indeed, in some states the chances may be as great as one in four that the child's teacher has had five years of post-secondary education and holds the master's degree.

At the other extreme is the child in a state where the chances are as high as four to one that his teacher *will not be a college graduate.* And despite the amazing progress in the upgrading of elementary school teachers, this annual study shows that in at least 13 states the chances are yet more than equal that the elementary school child will be under the direction of a non-college graduate.

Critics will, of course, be quick to say—and rightly—that college attendance is no guarantee of success as a teacher. The position is untenable, however, that formal study beyond the high school is not the most measurable element of the best program of preparation for teaching we have yet been able to devise. In like manner, it is unthinkable that there are any considerable number of "born" teachers who would be really successful in today's complicated world without a broad background of knowledge which is most likely to come through a systematically organized four-year program of study at the higher education level. Indeed, the growing demand for college preparation for entrance into—and prospect of progress in—a host of occupations is testimony in support of the requirement of extended, carefully planned preparation for the basic task of elementary education.

In view of (a) the large numbers involved, and (b) the lack of well organized records, it is sometimes not easy to get a clear look at the educational attainments of the whole corps of elementary school teachers in a state. Since 1949, therefore, a varying number of states have participated in this section of the annual study.

Table 5 shows that substantial progress has attended the professional standards movement since it was launched eight years ago. In 1949 this study included some 222,000 elementary school teachers, of whom 49 per cent were college graduates, 34 per cent had completed as much as two years of college training, and no less than 17 per cent had only a smattering of, or no college training at all. Now, six years later, the study includes 468,445 elementary school teachers, and thus an exact comparison cannot be drawn. But it is indeed heartening to note that as many as 68 per cent of this whole

TABLE 5.—PREPARATION OF ALL ELEMENTARY SCHOOL TEACHERS IN CERTAIN STATES, INDICATED IN SEMESTER HOURS OF CREDIT, ANNUALLY SINCE 1949

Year	Number of States Participating[a]	120 or More Hrs.		60-119 Hrs.		Less Than 60 Hrs.		Total	
		No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total
1949	23	108,827	49.07	75,453	34.02	37,507	16.91	221,787	100.0
1950	37	156,768	46.71	122,734	36.57	56,117	16.72	335,619	100.0
1951	39	184,307	48.85	133,430	35.36	59,594	15.79	377,331	100.0
1952	36	201,731	54.65	123,428	33.44	43,987	11.91	369,146	100.0
1953	30	209,176	60.44	108,068	31.23	28,848	8.33	346,092	100.0
1954	35	281,476	64.72	124,789	28.70	28,629	6.58	434,894	100.0
1955	32	316,775	67.62	123,018	26.26	28,652	6.12	468,445	100.0

[a] Not exactly the same states participated each year. Several state offices cannot complete this study until the close of the academic year. The list of states participating in this part of the study each year is shown in the Annual National Teacher Supply and Demand Report for that year.

group are college graduates, with 26 per cent having completed two or more years of college work, and *only six per cent* with lesser amounts of formal training to their credit. And this steady tramp, tramp, tramp of elementary education toward improved educational efficiency is the more amazing when it is viewed in the light of increased enrollments since 1949.

Table 6 sharpens this record of progress. This table contains the record of the 11 states (and the District of Columbia) which have made the complete analysis each year, 1949-1955 inclusive. These states started six years ago with 48 per cent college graduates and 16 per cent in the lowest bracket of preparation. In 1955 they report 66 per cent college graduates and less than five per cent at the bottom level.

Table 7 presents an illuminating view of elementary education in America today, as indicated by the formal preparation of complete groups of teachers, state by state. In most of the reporting states the teachers are divided into seven groups, ranging from those holding the master's degree down to those who have not even entered college. In a few of the reporting states, the records do not contain such detailed information, but it is possible to divide all elementary school teachers into three groups according to their preparation. Thus, the totals in Table 7 are shown in only these three groups: those who hold the bachelor's degree or better; those who have 60 but not more than 119 semester hours of college credit, and those who have fewer than 60 semester hours of credit.

Another interesting feature of Table 7 are the separate reports of 16 states showing the preparation of the new teachers who entered service last September. These reports are in italics in the line just below the one reporting

TABLE 6.—PREPARATION OF ALL ELEMENTARY SCHOOL TEACHERS IN 11 STATES AND THE DISTRICT OF COLUMBIA, INDICATED IN SEMESTER HOURS OF CREDIT, ANNUALLY SINCE 1949[a]

Year	120 or More Hrs.		60-119 Hrs.		Less Than 60 Hrs.		Total	
	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total
1949	59,062	45.97	48,178	37.50	21,241	16.53	128,481	100.0
1950	62,298	48.75	44,765	35.03	20,732	16.22	127,795	100.0
1951	73,974	55.00	44,937	33.41	15,595	11.59	134,506	100.0
1952	79,104	57.65	45,471	33.14	12,636	9.21	137,211	100.0
1953	85,019	61.23	44,175	31.81	9,668	6.96	138,862	100.0
1954	92,129	63.61	44,982	31.06	7,729	5.33	144,840	100.0
1955	100,194	65.72	45,511	29.85	6,761	4.43	152,466	100.0

[a] States submitting complete reports each year: Alabama, Arizona, Connecticut, District of Columbia, Kansas, Kentucky, Missouri, North Carolina, Ohio, Utah, Vermont, and Wisconsin.

the preparation of all elementary school teachers in the state. This separate examination of the training of all new teachers shows clearly whether the induction of this new group tends to build up or pull down the general level of preparation of the whole corps. In most cases these new teachers reflect the state-wide effort to improve the elementary schools, but here again progress varies widely. Two of these reports show that not one new teacher without the bachelor's degree was hired, while at the other extreme is a state in which only 19 per cent of the new teachers are college graduates, as many as 25 per cent have completed *less than half* the requirements for the bachelor's degree, and *no fewer than 10 per cent have not even entered college!* In this latter state, where some 1,400 new elementary school teachers were employed last fall, the general level of the whole corps was pulled down sharply.

Data Have Limited Meaning

The foregoing reports on the preparation of teachers are, perhaps, the most significant single measure of state-wide interest in the effectiveness of the elementary schools. A sharp limitation, however, must be placed upon the meaning of these figures. They show only the gross number of college credits earned; they do *not* reflect the quality of scholarship. Also, they do *not* indicate the nature of the college program.

It is not only possible but probable that a considerable number of the degree holders had little or no specific training for elementary school teaching while pursuing undergraduate work. Without doubt, elementary school classrooms have absorbed many liberal arts graduates whose earlier vocational ambitions pointed elsewhere. Some of these persons, on becoming interested in teaching, devoted as much as a full year of postgraduate work to an intensive, well organized "conversion" program. Others, however, responded to the frantic appeals of local school employing officials, and entered the classroom with little or no understanding of what is implied in the education of small children. Some of these beginners have been given effective aid in the form of supervision and in-service training, and have developed into excellent teachers. Others brought with them exceptional personal talents which, with their broad general education, enabled them to make fine adjustments. It is to be expected, however, that this vast, almost nation-wide movement has swept into elementary school classrooms many persons who, although they are college graduates, do not produce as effectively as many less well-educated teachers.

Refinement Opportunities Ahead

In any effort to improve the quality of service given by nearly a million persons, certain details must necessarily be subordinated to the larger goals. Thus, in the movement to improve the quality of instruction in elementary schools, a "first" goal has been to assure the broad, general education of the teacher. Our complex society today and the even more complicated problems of tomorrow point up the rightful demand that every teacher at every grade level be a broadly educated person.

With the acceptance of this concept, it *then* becomes possible and logical to identify and emphasize the *particular elements* of an organized four-year program of study which will prepare the young graduate for a *specific* assignment. Such assignment might be service to society as an engineer, an attorney, an architect, a nurse, a chemist, or a teacher.

In any case, the first concern would be to guarantee a background of general knowledge and understanding upon which more specific education can be based. With the upgrading of the general education of the elementary school teacher, as indicated earlier in this section, the way becomes clearer for more penetrating consideration of the specific elements to be integrated with the underlying program of general education.

TABLE 7.—ANALYSIS OF PREPARATION, IN SEMESTER HOURS OF CREDIT, OF ALL ELEMENTARY SCHOOL TEACHERS IN 32 STATES AND ALASKA AND THE DISTRICT OF COLUMBIA IN 1954-55

Wherever possible, all elementary school teachers in service in a state are divided into seven groups, as shown in the seven column headings of this table. In some of the participating states its was only possible to divide the teachers into three broader groups. The totals, therefore, are shown in only these three groups: teachers having 120 or more semester hours of college credit; teachers having 60 but not more than 119 semester hours; teachers having less than 60 semester hours.
In 17 states and the District of Columbia it was possible to make a separate analysis of the preparation of all new elementary school teachers entering service in September, 1954. These reports are shown in separate lines in *italics*. They provide a quick method of determining whether the new group improves or pulls down the average preparation of all elementary school teachers in service in that state. These new teachers are included in the state total shown in the preceding line; they are not added twice in the grand total.

State	150 or More Hrs.		120-149 Hrs.		90-119 Hrs.		60-89 Hrs.		30-59 Hrs.		1-29 Hrs.		No Hrs.		Total	
	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total
Alabama (White)	643	7.0%	5,469	59.4%	1,049	11.4%	1,256	13.6%	—787 teachers—8.6 per cent—						9,204	100.0%
Alabama (Negro)	293	5.7	3,320	64.3	764	14.8	431	8.3	—358 teachers—6.9 per cent—						5,166	100.0
Alaska	77	8.3	664	71.8	139	15.0	30	3.3	8	0.9%	3	0.3%	4	0.4%	925	100.0
Arizona	1,011	18.2	4,429	80.0	98	1.8	0	0.0	0	0.0	0	0.0	0	0.0	5,538	100.0
Arizona (New in 1954-55)	*17*	*6.1*	*261*	*93.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*278*	*100.0*
Arkansas	834	10.2	4,279	52.6	1,608	19.7	1,069	13.1	332	4.1	13	0.2	8	0.1	8,143	100.0
Arkansas (New in 1954-55)	*50*	*7.8*	*283*	*44.4*	*103*	*16.1*	*151*	*23.7*	*48*	*7.5*	*3*	*0.5*	*0*	*0.0*	*638*	*100.0*
California	—49,622 teachers—90.1 per cent—				2,678	4.9	2,318	4.2	306	0.6	102	0.2	20	*	55,046	100.0
Connecticut	1,397	14.7	5,824	61.4	727	7.7	1,416	14.9	71	0.8	30	0.3	19	0.2	9,484	100.0
D. C.	—1,486 teachers—81.9 per cent—				183	10.0	107	5.9	19	1.1	19	1.1	0	0.0	1,814	100.0
D. C. (New in 1954-55)	*0*	*0.0*	*133*	*100.0*	*0*	*0.0*	*0*	*0.0*	0	0.0	0	0.0	0	0.0	*133*	*100.0*
Illinois	5,715	15.3	19,074	51.0	5,356	14.3	5,890	15.7	1,253	3.4	128	0.3	0	0.0	37,416	100.0
Indiana	—14,099 teachers—76.8 per cent—				—3,893 teachers—21.2 per cent—				—376 teachers—2.0 per cent—						18,368	100.0
Iowa[b]	485	3.5	2,572	18.8	1,475	10.8	4,856	35.4	2,117	15.4	2,126	15.5	75	0.6	13,706	100.0
Iowa (New in 1954-55)	*13*	*1.6*	*146*	*18.1*	*38*	*4.7*	*570*	*70.6*	*39*	*4.9*	*1*	*0.1*	*0*	*0.0*	*807*	*100.0*
Kansas	2,145	16.3	5,624	42.8	1,579	12.0	3,361	25.5	408	3.1	32	0.2	6	0.1	13,155	100.0
Kentucky	935	6.6	5,239	36.9	2,129	15.0	4,553	31.9	794	5.6	505	3.6	54	0.4	14,189	100.0
Kentucky (New in 1954-55)	*6*	*0.7*	*264*	*32.4*	*53*	*6.5*	*198*	*24.3*	*143*	*17.5*	*137*	*16.8*	*15*	*1.8*	*816*	*100.0*
Maine	172	3.6	1,231	25.6	953	19.8	1,789	37.3	652	13.6	5	0.1	0	0.0	4,802	100.0
Maine (New in 1954-55)	*11*	*2.1*	*227*	*42.4*	*88*	*16.5*	*134*	*25.0*	*54*	*10.1*	*21*	*3.9*	*0*	*0.0*	*535*	*100.0*
Maryland	1,157	13.2	5,042	57.5	894	10.2	1,460	16.6	189	2.2	27	0.3	0	0.0	8,769	100.0
Minnesota	630	4.7	3,402	25.7	1,553	11.7	5,480	41.4	2,187	16.5	0	0.0	0	0.0	13,252	100.0
Missouri	3,149	17.9	7,731	44.0	2,161	12.3	3,203	18.2	1,294	7.3	32	0.2	15	0.1	17,583	100.0
Montana	373	9.2	1,134	28.1	632	15.7	1,627	40.3	234	5.8	36	0.9	0	0.0	4,036	100.0
Montana (New in 1954-55)	*12*	*4.8*	*77*	*30.7*	*14*	*5.6*	*131*	*52.2*	*17*	*6.7*	*0*	*0.0*	*0*	*0.0*	*251*	*100.0*
Nebraska	329	3.5	1,990	21.2	1,268	13.5	2,338	24.9	1,667	17.8	1,649	17.6	141	1.5	9,382	100.0
Nebraska (New in 1954-55)	*12*	*0.8*	*267*	*18.3*	*111*	*7.6*	*263*	*18.1*	*311*	*21.4*	*350*	*24.1*	*141*	*9.7*	*1,455*	*100.0*
Nevada	155	12.4	593	47.3	207	16.5	240	19.1	35	2.8	5	0.4	19	1.5	1,254	100.0
Nevada (New in 1954-55)	*11*	*5.2*	*118*	*55.9*	*19*	*9.0*	*43*	*20.4*	*13*	*6.2*	*1*	*0.5*	*6*	*2.8*	*211*	*100.0*

New Hampshire[c]	91	4.6	744	37.8	278	14.1	697	35.4	87	4.4	60	3.0	13	0.7	1,970	100.0
New Hampshire (New in 1953-54)	*8*	*3.1*	*172*	*67.5*	*20*	*7.8*	*50*	*19.6*	*2*	*0.8*	*3*	*1.2*	*0*	*0.0*	*255*	*100.0*
New Mexico	800	19.9	2,876	71.7	290	7.2	48	1.2	0	0.0	0	0.0	0	0.0	4,014	100.0
North Carolina (White)	750	4.5	14,300	84.9	1,250	7.4	360	2.2	140	0.8	20	0.1	17	0.1	16,837	100.0
North Carolina (White—New in 1954-55)	*34*	*1.9*	*1,442*	*82.1*	*200*	*11.4*	*59*	*3.4*	*15*	*0.8*	*5*	*0.3*	*2*	*0.1*	*1,757*	*100.0*
North Carolina (Negro)	740	10.6	6,128	87.9	80	1.2	20	0.3	0	0.0	0	0.0	2	*	6,970	100.0
North Carolina (Negro—New in 1954-55)	*10*	*2.1*	*455*	*95.6*	*11*	*2.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*476*	*100.0*
North Dakota[d]	752 teachers—15.7 per cent				260	5.4	1,847	38.4	829	17.3	842	17.5	272	5.7	4,802	100.0
Ohio	4,394	13.8	14,322	45.0	5,413	17.0	6,814	21.4	796	2.5	95	0.3	0	0.0	31,834	100.0
Ohio (New in 1954-55)	*2,375 teachers—74.5 per cent*				*113*	*3.5*	*700*	*22.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3,188*	*100.0*
Oklahoma (White)[e]	1,879	18.1	7,906	76.2	491[e]	4.7	99[f]	1.0	0	0.0	0	0.0	0	0.0	10,375	100.0
Oklahoma (White—New in 1953-54)	*11*	*2.0*	*494*	*89.0*	*50[e]*	*9.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*555*	*100.0*
Oklahoma (Negro)[e]	193	19.5	768	77.6	24[e]	2.4	5[f]	0.5	0	0.0	0	0.0	0	0.0	990	100.0
Oklahoma (Negro—New in 1953-54)	*4*	*7.5*	*48*	*90.6*	*1[e]*	*1.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*53*	*100.0*
Oregon	2,779	31.7	3,556	40.6	1,816	20.7	575	6.6	26	0.3	0	0.0	10	0.1	8,762	100.0
Oregon (New in 1954-55)	*105*	*23.0*	*292*	*63.9*	*49*	*10.7*	*10*	*2.2*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*457*	*100.0*
South Carolina (White)[e]	552	7.8	4,672	66.3	917	13.0	615	8.7	292 teachers—4.2 per cent						7,048	100.0
South Carolina (Negro)[e]	271	4.8	3,638	64.3	879	15.6	622	11.0	245 teachers—4.3 per cent						5,655	100.0
Tennessee	1,681	9.1	8,925	48.1	2,539	13.7	4,366	23.5	356	1.9	690	3.7	0	0.0	18,557	100.0
Tennessee (New in 1954-55)	*11*	*1.1*	*630*	*65.6*	*60*	*6.3*	*101*	*10.5*	*25*	*2.6*	*133*	*13.9*	*0*	*0.0*	*960*	*100.0*
Texas	10,756	28.1	26,068	68.1	766	2.0	498	1.3	153	0.4	0	0.0	38	0.1	38,279	100.0
Utah	211	6.1	2,636	76.4	307	8.9	214	6.2	64	1.9	14	0.4	4	0.1	3,450	100.0
Utah (New in 1954-55)	*12*	*2.4*	*383*	*77.6*	*42*	*8.5*	*40*	*8.1*	*14*	*2.8*	*3*	*0.6*	*0*	*0.0*	*494*	*100.0*
Vermont	81	4.3	657	35.1	263	14.0	683	36.5	162	8.7	27	1.4	0	0.0	1,873	100.0
Vermont (New in 1954-55)	*11*	*5.1*	*114*	*53.0*	*14*	*6.5*	*55*	*25.6*	*18*	*8.4*	*3*	*1.4*	*0*	*0.0*	*215*	*100.0*
Virginia (White)	5,700 teachers—49.6 per cent				4,252 teachers—37.0 per cent				1,548 teachers—13.4 per cent				0	0.0	11,500	100.0
Virginia (Negro)	2,830 teachers—79.7 per cent				648 teachers—18.3 per cent				71 teachers—2.0 per cent				0	0.0	3,549	100.0
West Virginia (White)	1,430	14.8	4,372	45.3	930	9.7	1,931	20.0	307	3.2	610	6.3	65	0.7	9,645	100.0
West Virginia (Negro)	89	15.5	415	72.0	19	3.3	51	8.9	0	0.0	2	0.3	0	0.0	576	100.0
Wisconsin	1,485	9.7	5,795	37.7	2,191	14.2	4,919	32.0	935	6.1	44	0.3	0	0.0	15,369	100.0
Wisconsin(New in 1954-55)	*49*	*3.0*	*641*	*39.5*	*106*	*6.5*	*694*	*42.7*	*124*	*7.7*	*10*	*0.6*	*0*	*0.0*	*1,624*	*100.0*
TOTAL	316,775 teachers—67.6 per cent				123,018 teachers—26.3 per cent				28,652 teachers—6.1 per cent						468,455	100.0

* Less than 1/10 of one per cent. [b] Includes all teachers except those in Des Moines. [c] For 1953-54, not the current year. [d] Includes all teachers in rural districts and the teachers in 309 of 405 urban districts. [e] This grouping is 102-119 hours. [f] This grouping is 60-101 hours.

Part IV—Occupations of 1954 College Graduates Prepared to Teach

Part I of this report indicates the number of college students who will graduate at the end of the 1954-55 academic year with preparation to enter the teaching profession. In reporting this oncoming "supply" of potential candidates for teaching positions, only one measure is used. It is this: the graduating college senior will have completed the requirements for a standard teaching certificate in the state in which the college is located. These requirements vary from state to state but, in general, they comprise some 15-18 semester hours of prescribed professional courses, including supervised teaching, for the potential high school teacher, and usually a list of somewhat more exacting requirements for the potential elementary school teacher.

Part I includes all members of the 1955 graduating class who will meet these certificate requirements; no attempt is made, at the time these reports are assembled, to anticipate the occupational ambitions of these students about to graduate. Obviously such data, if assembled some months before the college student actually emerges with diploma in hand, would be lacking in accuracy. Part IV of this study, therefore, looks back and asks, *"what happened to the members of the 1954 graduating class who came from the colleges last spring and summer with eligibility for the teaching certificate?"* In other words, how successful were the local employers of teachers in obtaining the services of this new "supply" of qualified candidates? And what happened, vocationally, to those who, although eligible to enter teaching, did not do so? How many entered other gainful occupations? How many are continuing formal study? How many have entered the military services? How many are still seeking either teaching or non-teaching positions? And how many do not want to enter gainful employment?

It is quickly apparent that answers can be obtained only through the follow-up activities of the colleges themselves. Every college knows, and reports for use in Part I, the number of its graduates of the previous academic year who are eligible for teaching certificates. Not all colleges, however, have yet developed effective follow-up programs. The data presented here concerning the occupations on last November 1 of members of the 1954 graduating class do not include all 1954 graduates reported in Part I. This present report does, however, include information about the last year's graduates of all colleges in 22 states and of some colleges in nine other states.

Table 8 reports the occupations of 3,037 men and 14,790 women prepared for elementary and 12,273 men and 10,984 women prepared for high school teaching. These figures account for 48 per cent of the elementary and 47 per cent of the high school elegible candidates in the 1954 graduating class. It seems fair to assume, therefore, that the following reports are representative of conditions across the entire nation.

It is clear that, among both men and women, those who prepare for elementary school teaching have a more direct intention to enter teaching than do those who qualify for the high school certificate. Without doubt the makeup of the four-year curriculums of the preparing colleges contains the key to this difference, along with the usual pattern of requirements for the certificate. In almost every college the elementary school curriculum is broader, with some required work in a number of basic academic fields, and thus less opportunity for heavy concentration in just one field to the exclusion of many others. Concentration in a "major field," on the other hand, is characteristic of nearly all programs pointing to high school teaching. Thus the potential high school teacher is more likely

to emerge from college with reasonable readiness for another occupation which calls for a college background.

At any rate this study shows clearly the greater holding power of the elementary school field. As many as 65 per cent of the men and 82 per cent of the women (about 79 per cent of all) who follow the four-year pattern of college preparation for elementary school teaching are found to be in teaching service. Among those prepared for high school teaching, on the other hand, no more than 45 per cent of the men and 65 per cent of the women (56 per cent of all) are reported to have accepted teaching positions.

And among this latter group the appeal of teaching varies widely among the various fields of high school instruction. In music, at the top, 68.5 per cent of the eligible candidates are found to be in teaching positions. In chemistry, at the other extreme, only 36.1 per cent became teachers. The other teaching fields, in order of their attractiveness to eligible candidates are: English, 67.9 per cent; home economics, 66.4 per cent; art, 62.6 per cent; mathematics, 59.0 per cent; commerce, 58.1 per cent; speech, 57.8 per cent; physical education, 56.7 per cent; foreign languages, 56.0 per cent; general science, 52.0 per cent; social science, 51.8 per cent; physics, 51.5 per cent; biology, 45.4 per cent; agriculture, 41.0 per cent; chemistry, 36.1 per cent.

The teaching of music attracts *two of every three* eligible candidates, but the teaching of chemistry attracts only *one of every three!* The other science teaching fields—general science, biology, and physics—fare a little better than chemistry in competing with the other vocational opportunities. But even so, when all four of these science teaching fields are grouped together, this report shows that only 47.1 per cent of the eligible members of the 1954 graduating class actually became teachers.

These figures take on added meaning when they are compared with the figures in Table 3 (page 29). Table 3 shows the number of eligible candidates in each high school field to graduate from the colleges in 1950, and the year-by-year decrease in each field since that date. The five-year decrease in "supply" is least in the fields taught exclusively or largely by women—art, music, home economics, girls' physical education, commerce, and foreign language. Table 8 shows that these fields are high in their ability to attract eligible candidates into the classroom. But Table 3 shows that the five-year decrease in "supply" has been greatest in the fields taught exclusively or largely by men — agriculture, mathematics, industrial arts, and the sciences, while Table 8 shows that these fields are low in their ability to attract eligible candidates. These tables thus reveal two significant trends; the distribution of the available "supply" of new candidates among the high school teaching fields is rapidly changing; the balance between the sexes is rapidly changing.

The elementary school teaching field presents quite a different picture. Table 3 shows that the new "supply" has steadily increased since 1950, in direct contradiction of the general trends. Table 8 shows that the classroom is quite successful in "capturing" a good share of these college graduates. Among the men, *two of every three* take teaching jobs, and *better than four of every five women do so.*

The elementary school field loses only two per cent of its eligibles to other gainful employment, in contrast to an eight per cent loss among the college graduates eligible to enter high school teaching. Advanced study beyond the bachelor's degree claims two per cent and six per cent, respectively; military service accounts for two per cent of the elementary and ten per cent of the high school supply; homemaking naturally affects the potential elementary school teachers somewhat more, because of the predominance of women in this group.

TABLE 8.—OCCUPATION, ON NOVEMBER 1, 1954, OF PERSONS WHO GRADUATED BETWEEN SEPTEMBER 1, 1953, AND AUGUST 31, 1954, WITH QUALIFICATIONS FOR STANDARD TEACHING CERTIFICATES

Complete reports from: Alaska, Arkansas, California, Connecticut, Delaware, Hawaii, Illinois, Kansas, Minnesota, Missouri, Montana, Nevada, New Jersey, New Mexico, North Carolina, Ohio, Oregon, South Dakota, Utah, Vermont, Virginia, and Washington
Incomplete reports from: Alabama, Idaho, Indiana, Kentucky, Maine, Nebraska, Oklahoma, West Virginia, and Wisconsin.

Field of preparation	Teaching		Not teaching														Total	
			Otherwise gainfully employed		Continuing formal study		Military service		Homemaking (women)		Seeking teaching job		Seeking nonteaching job		No information			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
High School (by field)																		
Agriculture																		
Men	262	41.3%	81	12.8%	42	6.6%	171	26.9%	0	0.0%	6	0.9%	2	0.3%	71	11.2%	635	100.0%
Women	1	14.3	0	0.0	2	28.6	0	0.0	0	0.0	0	0.0	0	0.0	4	57.1	7	100.0
Total	263	41.0	81	12.6	44	6.9	171	26.6	0	0.0	6	0.9	2	0.3	75	11.7	642	100.0
Art																		
Men	132	53.4	20	8.1	20	8.1	52	21.1	0	0.0	7	2.8	1	0.4	15	6.1	247	100.0
Women	270	68.3	23	5.8	22	5.6	1	0.3	52	13.2	8	2.0	0	0.0	19	4.8	395	100.0
Total	402	62.6	43	6.7	42	6.5	53	8.3	52	8.1	15	2.3	1	0.2	34	5.3	642	100.0
Commerce																		
Men	248	42.0	110	18.6	43	7.3	135	22.9	0	0.0	7	1.2	3	0.5	44	7.5	590	100.0
Women	697	67.2	178	17.2	19	1.8	0	0.0	73	7.0	14	1.4	2	0.2	54	5.2	1,037	100.0
Total	945	58.1	288	17.7	62	3.8	135	8.3	73	4.5	21	1.3	5	0.3	98	6.0	1,627	100.0
English																		
Men	348	52.2	41	6.1	96	14.4	88	13.2	0	0.0	14	2.1	0	0.0	80	12.0	667	100.0
Women	1,137	74.8	82	5.4	65	4.3	1	0.1	100	6.6	31	2.0	8	0.5	96	6.5	1,520	100.0
Total	1,485	67.9	123	5.6	161	7.4	89	4.1	100	4.6	45	2.0	8	0.4	176	8.0	2,187	100.0
Foreign language																		
Men	75	40.5	3	1.6	60	32.4	20	10.8	0	0.0	6	3.3	0	0.0	21	11.4	185	100.0
Women	203	65.1	18	5.8	27	8.7	1	0.3	21	6.7	10	3.2	0	0.0	32	10.2	312	100.0
Total	278	56.0	21	4.2	87	17.5	21	4.2	21	4.2	16	3.2	0	0.0	53	10.7	497	100.0
Home economics																		
Men	1	33.3	2	66.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	100.0
Women	1,126	66.4	163	9.6	34	2.0	0	0.0	163	9.6	47	2.8	27	1.6	135	8.0	1,695	100.0
Total	1,127	66.4	165	9.7	34	2.0	0	0.0	163	9.6	47	2.8	27	1.6	135	7.9	1,698	100.0
Industrial arts																		
Men	482	57.7	62	7.4	38	4.5	186	22.2	0	0.0	10	1.2	3	0.4	55	6.6	836	100.0
Women	1	11.1	3	33.3	0	0.0	0	0.0	0	0.0	0	0.0	1	11.1	4	44.5	9	100.0
Total	483	57.1	65	7.7	38	4.5	186	22.2	0	0.0	10	1.2	4	0.5	59	7.0	845	100.0
Journalism																		
Men	8	53.3	0	0.0	1	6.7	0	0.0	0	0.0	0	0.0	0	0.0	6	40.0	15	100.0
Women	11	64.6	2	11.8	0	0.0	0	0.0	2	11.8	0	0.0	0	0.0	2	11.8	17	100.0
Total	19	59.3	2	6.3	1	3.1	0	0.0	2	6.3	0	0.0	0	0.0	8	25.0	32	100.0
Library science																		
Men	12	85.8	1	7.1	1	7.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	100.0
Women	89	85.5	4	3.9	0	0.0	0	0.0	4	3.9	3	2.8	0	0.0	4	3.9	104	100.0
Total	101	85.6	5	4.2	1	0.9	0	0.0	4	3.4	3	2.5	0	0.0	4	3.4	118	100.0
Mathematics																		
Men	317	52.9	51	8.5	47	7.9	146	24.4	0	0.0	5	0.8	0	0.0	33	5.5	599	100.0
Women	242	69.3	40	11.5	13	3.7	1	0.3	27	7.7	3	0.9	1	0.3	22	6.3	349	100.0
Total	559	59.0	91	9.6	60	6.3	147	15.5	27	2.9	8	0.8	1	0.1	55	5.8	948	100.0

Field of preparation	Teaching		Not teaching														Total	
			Otherwise gainfully employed		Continuing formal study		Military service		Homemaking (women)		Seeking teaching job		Seeking nonteaching job		No information			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Music																		
Men	430	55.9	29	3.8	67	8.7	194	25.2	0	0.0	19	2.5	0	0.0	30	3.9	769	100.0
Women	840	77.4	41	3.8	53	4.9	2	0.2	88	8.1	14	1.3	4	0.4	43	3.9	1,085	100.0
Total	1,270	68.5	70	3.8	120	6.5	196	10.6	88	4.7	33	1.8	4	0.2	73	3.9	1,854	100.0
Physical education																		
Men	944	47.1	140	7.0	99	4.9	597	29.8	0	0.0	28	1.4	2	0.1	194	9.7	2,004	100.0
Women	747	76.3	46	4.7	30	3.1	8	0.8	51	5.2	12	1.2	2	0.2	83	8.5	979	100.0
Total	1,691	56.7	186	6.2	129	4.3	605	20.3	51	1.7	40	1.4	4	0.1	277	9.3	2,983	100.0
General science																		
Men	209	49.5	25	5.9	53	12.6	107	25.3	0	0.0	5	1.2	0	0.0	23	5.5	422	100.0
Women	98	58.4	14	8.3	16	9.5	1	0.6	14	8.3	7	4.2	0	0.0	18	10.7	168	100.0
Total	307	52.0	39	6.6	69	11.7	108	18.3	14	2.4	12	2.0	0	0.0	41	7.0	590	100.0
Biology																		
Men	162	44.1	34	9.3	57	15.5	86	23.4	0	0.0	12	3.3	2	0.6	14	3.8	367	100.0
Women	94	47.7	21	10.7	32	16.2	0	0.0	20	10.2	12	6.1	1	0.5	17	8.6	197	100.0
Total	256	45.4	55	9.8	89	15.8	86	15.2	20	3.5	24	4.3	3	0.5	31	5.5	564	100.0
Chemistry																		
Men	58	37.9	30	19.6	14	9.2	32	20.9	0	0.0	0	0.0	0	0.0	19	12.4	153	100.0
Women	28	33.0	25	29.4	20	23.5	0	0.0	3	3.5	0	0.0	1	1.2	8	9.4	85	100.0
Total	86	36.1	55	23.1	34	14.3	32	13.5	3	1.3	0	0.0	1	0.4	27	11.3	238	100.0
Physics																		
Men	32	35.5	8	8.9	15	16.7	24	26.7	0	0.0	2	2.2	0	0.0	9	10.0	90	100.0
Women	35	87.5	0	0.0	2	5.0	0	0.0	0	0.0	0	0.0	0	0.0	3	7.5	40	100.0
Total	67	51.5	8	6.2	17	13.1	24	18.5	0	0.0	2	1.5	0	0.0	12	9.2	130	100.0
Social science																		
Men	914	47.8	168	8.8	236	12.3	381	19.9	0	0.0	35	1.8	5	0.3	175	9.1	1,914	100.0
Women	545	60.2	80	8.8	55	6.1	0	0.0	64	7.1	22	2.4	10	1.1	129	14.3	905	100.0
Total	1,459	51.8	248	8.8	291	10.3	381	13.5	64	2.3	57	2.0	15	0.5	304	10.8	2,819	100.0
Speech																		
Men	88	47.3	10	5.4	23	12.4	43	23.1	0	0.0	4	2.1	3	1.6	15	8.1	186	100.0
Women	194	64.2	24	8.0	21	7.0	1	0.3	27	8.9	11	3.6	0	0.0	24	8.0	302	100.0
Total	282	57.8	34	7.0	44	9.0	44	9.0	27	5.5	15	3.1	3	0.6	39	8.0	488	100.0
Other																		
Men	203	46.6	44	10.1	41	9.4	59	13.5	0	0.0	2	0.5	4	0.9	83	19.0	436	100.0
Women	178	43.7	48	11.8	26	6.4	1	0.2	47	11.6	6	1.5	0	0.0	101	24.8	407	100.0
Total	381	45.2	92	10.9	67	7.9	60	7.1	47	5.6	8	1.0	4	0.5	184	21.8	843	100.0
High school total[a]																		
Men	5,828	47.5	934	7.6	1,043	8.5	2,416	19.7	0	0.0	244	2.0	26	0.2	1,782	14.5	12,273	100.0
Women	7,116	64.8	859	7.8	468	4.3	20	0.2	801	7.3	245	2.2	58	0.5	1,417	12.9	10,984	100.0
Total	12,944	55.7	1,793	7.7	1,511	6.5	2,436	10.5	801	3.4	489	2.1	84	0.4	3,199	13.7	23,257	100.0
Elementary total																		
Men	1,977	65.1	147	4.8	191	6.3	321	10.6	0	0.0	34	1.1	5	0.2	362	11.9	3,037	100.0
Women	12,090	81.7	212	1.4	154	1.0	2	[b]	734	5.0	222	1.5	6	0.1	1,370	9.3	14,790	100.0
Total	14,067	78.9	359	2.0	345	1.9	323	1.8	734	4.1	256	1.5	11	0.1	1,732	9.7	17,827	100.0
GRAND TOTAL																		
Men	7,805	51.0	1,081	7.1	1,234	8.1	2,737	17.8	0	0.0	278	1.8	31	0.2	2,144	14.0	15,310	100.0
Women	19,206	74.5	1,071	4.2	622	2.4	22	0.1	1,535	6.0	467	1.8	64	0.2	2,787	10.8	25,774	100.0
Total	27,011	65.8%	2,152	5.3%	1,856	4.5%	2,759	6.7%	1,535	3.7%	745	1.8%	95	0.2%	4,931	12.0%	41,084	100.0%

[a] This total is greater than the sum of the above specific teaching-field reports because the California total, included here, could not be broken down by fields.
[b] Less than 1/10 of one percent.

APPENDIX A

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All white institutions in ALABAMA				All Negro institutions in ALABAMA				ALASKA (Univ. of)				All institutions in ARIZONA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	32	404	436	331	11	216	227	671	5	4	9	8	56	269	325	335
90 semester hours	3	146	149	240	...	5	5	157	...	...	...	...	...	...	...	...
60 semester hours	...	25	25	22	...	...	...	31	...	...	...	...	...	...	...	...
30 semester hours	...	23	23	15	...	...	...	6	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	35	598	633	608	11	221	232	865	5	4	9	8	56	269	325	335
HIGH SCHOOL																
Agriculture	50	...	50	47	7	...	7	8	...	...	...	...	...	...	...	...
Art	1	11	12	4	6	1	7	7	...	...	...	...	6	1	7	5
Commerce	22	66	88	64	3	23	26	27	...	...	...	1	18	8	26	26
English	17	73	90	110	4	38	42	77	...	1	1	1	16	20	36	33
Foreign Language	11	7	18	20	3	10	13	5	...	...	...	...	10	5	15	12
Home Economics	...	96	96	84	...	44	44	45	...	1	1	...	...	19	19	20
Industrial Arts	26	...	26	15	6	...	6	3	...	...	...	...	26	...	26	32
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Library Science	2	5	7	7	...	...	...	...	...	...	...	...	...	...	...	...
Mathematics	22	22	44	34	14	19	33	45	...	...	...	...	3	2	5	4
Music	19	28	47	52	4	12	16	12	...	...	...	...	11	8	19	19
Physical Ed.--Men	122	...	122	79	16	...	16	7	1	...	1	...	38	...	38	27
Physical Ed.--Women	...	50	50	41	...	5	5	4	...	...	...	1	...	18	18	15
General Science	27	9	36	25	21	16	37	24	...	...	...	2	5	3	8	7
Biology	8	9	17	28	5	6	11	4	...	...	...	...	10	...	10	13
Chemistry	7	3	10	14	2	...	2	4	...	...	...	...	3	1	4	...
Physics	1	...	1	3	...	...	...	...	...	...	...	...	3	1	4	4
Social Sciences	116	63	179	163	74	98	172	181	...	...	...	...	28	12	40	35
Speech	5	13	18	13	...	...	...	1	...	...	...	...	2	1	3	2
Other	3	2	5	6	14	1	15	18	...	...	...	...	...	...	...	...
HIGH SCHOOL TOTAL	459	457	916	809	179	273	452	472	1	2	3	5	179	100	279	255
GRAND TOTAL	494	1055	1549	1417	190	494	684	1337	6	6	12	13	235	369	604	590

Type of Preparation	All institutions in ARKANSAS				All institutions in CALIFORNIA				All institutions in COLORADO				All institutions in CONNECTICUT			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	35	461	496	485	739	3418	4157	3291	78	464	542	532	99	308	407	413
90 semester hours	20	114	134	103	...	...	...	...	20	58	78	57	...	...	...	...
60 semester hours	34	120	154	143	...	...	...	...	24	67	91	75	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	4	4	8	3
ELEMENTARY TOTAL	89	695	784	731	739	3418	4157	3291	122	589	711	664	103	312	415	416
HIGH SCHOOL																
Agriculture	42	1	43	46	86	...	86	67	29	...	29	5	...	...	...	1
Art	1	2	3	7	132	122	254	229	14	24	38	41	5	8	13	11
Commerce	32	74	106	80	144	116	260	142	35	44	79	93	13	10	23	20
English	18	63	81	75	156	171	327	259	25	58	83	94	18	32	50	57
Foreign Language	2	1	3	2	52	64	116	119	9	8	17	26	8	16	24	18
Home Economics	...	91	91	98	4	187	191	155	...	32	32	44	...	19	19	16
Industrial Arts	21	...	21	19	222	...	222	161	34	...	34	93	22	...	22	17
Journalism	...	1	1	...	...	...	...	...	3	...	3	4	...	...	...	...
Library Science	...	...	...	...	5	12	17	23	...	...	...	2	...	6	6	13
Mathematics	25	10	35	28	68	20	88	87	23	16	39	55	12	6	18	24
Music	26	35	61	60	175	137	312	210	43	33	76	86	13	16	29	21
Physical Ed.--Men	135	...	135	127	407	...	407	312	87	...	87	119	35	...	35	50
Physical Ed.--Women	...	40	40	25	...	201	201	190	...	49	49	46	...	21	21	19
General Science	10	4	14	20	...	...	...	...	22	15	37	67	8	2	10	5
Biology	13	8	21	6	130	40	170	161	20	10	30	34	5	2	7	10
Chemistry	5	1	6	...	35	5	40	35	9	2	11	15	2	2	4	5
Physics	...	2	2	2	37	7	44	44	4	...	4	2	1	...	1	1
Social Sciences	101	50	151	154	496	178	674	509	93	49	142	128	49	35	84	70
Speech	7	8	15	14	107	74	181	149	14	13	27	35	...	...	...	...
Other	1	2	3	6	281	263	544	668	3	3	6	22	1	1	2	5
HIGH SCHOOL TOTAL	439	393	832	769	2537	1597	4134	3520	467	356	823	1011	192	176	368	363
GRAND TOTAL	528	1088	1616	1500	3276	5015	8291	6811	589	945	1534	1675	295	488	783	779

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All institutions in DELAWARE				All institutions in DIST. OF COLUMBIA				All institutions in FLORIDA				All white institutions in GEORGIA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	2	37	39	62	3	106	109	111	58	691	749	817	15	254	269	553
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	5	8	13	10
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	1	20	21	9
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	2	37	39	62	3	106	109	111	58	691	749	817	21	282	303	572
HIGH SCHOOL																
Agriculture	2	...	2	3	...	...	...	...	34	...	34	43	25	...	25	21
Art	1	...	1	1	2	4	6	9	14	12	26	25	3	5	8	6
Commerce	...	1	1	...	2	7	9	13	28	49	77	62	13	27	40	42
English	1	4	5	7	4	20	24	16	36	42	78	105	9	41	50	70
Foreign Language	1	2	3	1	4	6	10	10	1	5	6	13	...	5	5	4
Home Economics	...	7	7	9	...	8	8	3	...	29	29	41	...	66	66	84
Industrial Arts	...	...	...	...	1	...	1	2	25	...	25	23	18	...	18	26
Journalism	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...
Library Science	...	...	...	...	...	...	...	...	3	3	6	5	...	6	6	11
Mathematics	3	1	4	2	7	2	9	7	21	18	39	57	9	11	20	24
Music	1	...	1	3	6	11	17	14	40	50	90	74	2	4	6	18
Physical Ed.--Men	6	...	6	6	15	...	15	18	96	...	96	135	32	...	32	32
Physical Ed.--Women	...	7	7	5	...	10	10	11	...	63	63	52	...	18	18	18
General Science	...	...	...	1	16	4	20	18	36	15	51	55	9	5	14	23
Biology	...	2	2	3	3	2	5	5	1	5	6	13	3	2	5	4
Chemistry	2	1	3	...	4	...	4	2	5	...	5	2	2	2	4	...
Physics	1	...	1	...	1	1	2	1	1	...	1	1	...	1	1	...
Social Sciences	4	...	4	3	30	27	57	46	114	38	152	126	37	22	59	75
Speech	...	...	...	...	...	...	...	...	5	7	12	23	...	1	1	6
Other	...	...	...	...	...	...	...	...	2	...	2	1	...	...	...	...
HIGH SCHOOL TOTAL	22	25	47	47	95	102	197	175	462	337	799	857	862	216	378	464
GRAND TOTAL	24	62	86	109	98	208	306	286	520	1028	1548	1674	183	498	681	1036

Type of Preparation	All Negro institutions in GEORGIA				HAWAII (Univ. of)				All institutions in IDAHO				All institutions in ILLINOIS			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	20	384	404	487	3	87	90	79	11	91	102	120	346	1535	1881	2030
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	20	384	404	487	3	87	90	79	11	91	102	120	346	1535	1881	2030
HIGH SCHOOL																
Agriculture	19	...	19	22	4	...	4	6	13	...	13	17	60	...	60	46
Art	...	1	1	...	1	1	2	2	2	7	9	7	22	41	63	78
Commerce	6	13	19	31	2	1	3	4	6	21	27	26	272	106	378	175
English	9	31	40	36	1	6	7	6	6	21	27	16	83	153	236	255
Foreign Language	...	2	2	14	...	...	...	...	1	3	4	4	32	47	79	93
Home Economics	...	16	16	14	...	10	10	11	...	29	29	20	...	162	162	177
Industrial Arts	3	...	3	5	...	...	...	...	3	...	3	10	107	...	107	101
Journalism	...	...	...	...	...	...	...	...	2	1	3	1	3	1	4	1
Library Science	...	...	...	...	...	1	1	...	...	1	1	2	7	15	22	18
Mathematics	8	11	19	22	3	2	5	2	4	2	6	5	95	42	137	105
Music	4	9	13	10	1	2	3	3	14	10	24	23	115	143	258	250
Physical Ed.--Men	9	...	9	7	2	...	2	...	46	...	46	49	238	...	238	247
Physical Ed.--Women	...	...	...	5	...	3	3	1	...	10	10	7	...	145	145	147
General Science	15	10	25	12	2	2	4	2	5	1	6	8	36	11	47	43
Biology	8	2	10	17	...	...	...	...	4	2	6	5	60	23	83	102
Chemistry	...	...	...	2	...	...	...	...	1	...	1	2	24	6	30	37
Physics	...	...	...	...	...	...	...	...	...	...	...	4	26	2	28	27
Social Sciences	29	17	46	64	1	6	7	3	21	13	34	21	232	87	319	322
Speech	...	...	...	...	...	1	1	...	...	4	4	1	33	69	102	112
Other	...	...	...	...	...	...	...	...	10	1	11	10	96	26	122	113
HIGH SCHOOL TOTAL	110	112	222	261	17	35	52	40	138	126	264	238	1541	1079	2620	2449
GRAND TOTAL	130	496	626	748	20	122	142	119	149	217	366	358	1887	2614	4501	4479

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All institutions in INDIANA				All institutions in IOWA				All institutions in KANSAS				All institutions in KENTUCKY			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	76	606	682	740	38	337	375	350	47	389	436	445	131	414	545	598
90 semester hours	...	...	...	...	3	9	12	1	...	1	1	7	...	...	...	...
60 semester hours	...	...	...	...	23	1042	1065	979	77	491	568	635	46	169	215	206
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	76	606	682	740	64	1388	1452	1330	124	881	1005	1087	177	583	760	804
HIGH SCHOOL																
Agriculture	32	...	32	45	49	...	49	59	21	...	21	27	64	...	64	69
Art	22	37	59	65	16	31	47	29	12	18	30	17	10	23	33	22
Commerce	75	64	139	116	51	41	92	84	49	33	82	44	37	65	102	114
English	73	131	204	160	41	83	124	117	26	74	100	88	26	74	100	103
Foreign Language	8	35	43	39	5	11	16	28	6	6	12	8	4	8	12	10
Home Economics	...	109	109	112	...	133	133	161	2	97	99	97	...	95	95	93
Industrial Arts	60	...	60	57	38	...	38	41	64	...	64	48	34	...	34	29
Journalism	...	...	...	...	3	4	7	3	...	1	1	2	...	...	...	...
Library Science	...	...	...	1	...	1	1	...	1	4	5	2	...	11	11	17
Mathematics	43	11	54	44	27	18	45	46	34	15	49	38	19	6	25	30
Music	47	63	110	136	43	81	124	126	41	82	123	97	48	63	111	116
Physical Ed.—Men	217	...	217	209	151	...	151	140	119	...	119	93	83	...	83	100
Physical Ed.—Women	...	48	48	82	...	48	48	42	...	48	48	32	...	35	35	49
General Science	50	17	67	70	39	11	50	55	13	4	17	13	13	5	18	7
Biology	35	9	44	32	8	15	23	22	17	8	25	25	26	7	33	39
Chemistry	19	3	22	11	5	3	8	5	5	1	6	13	17	7	24	20
Physics	16	1	17	10	4	3	7	6	4	...	4	5	6	...	6	5
Social Sciences	129	61	190	161	101	47	148	151	109	36	145	111	138	53	191	179
Speech	15	36	51	50	25	55	80	75	11	1	12	21	1	3	4	4
Other	4	3	7	14	17	...	17	...	17	8	25	15	2	2	4	...
HIGH SCHOOL TOTAL	845	628	1473	1414	623	585	1208	1190	551	436	987	796	528	457	985	1006
GRAND TOTAL	921	1234	2155	2154	687	1973	2660	2520	675	1317	1992	1883	705	1040	1745	1810

Type of Preparation	All white institutions in LOUISIANA				All Negro institutions in LOUISIANA				All institutions in MAINE				All institutions in MARYLAND			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	84	490	574	513	96	544	640	542	60	125	185	263	45	328	373	359
90 semester hours	...	...	...	...	3	34	37	28	4	17	21	24	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	84	490	574	513	99	578	677	570	64	142	206	287	45	328	373	359
HIGH SCHOOL																
Agriculture	20	...	20	14	22	...	22	16	...	...	...	...	10	...	10	12
Art	4	6	10	9	4	5	9	5	4	1	5	7	7	12	19	21
Commerce	30	79	109	81	18	48	66	33	6	10	16	27	3	18	21	14
English	15	53	68	50	7	42	49	34	14	24	38	31	9	27	36	46
Foreign Language	7	7	14	14	2	6	8	5	7	6	13	12	8	10	18	18
Home Economics	...	87	87	76	...	43	43	28	...	25	25	26	...	28	28	21
Industrial Arts	63	1	64	46	30	...	30	22	22	...	22	12	18	...	18	19
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Library Science	...	2	2	12	...	...	...	...	...	...	...	...	...	...	...	...
Mathematics	33	21	54	47	13	18	31	27	10	6	16	4	4	11	15	14
Music	34	24	58	57	26	23	49	33	2	5	7	6	24	20	44	42
Physical Ed.—Men	141	...	141	124	77	...	77	27	26	...	26	20	54	...	54	39
Physical Ed.—Women	...	43	43	27	...	27	27	14	...	4	4	5	...	25	25	13
General Science	30	12	42	43	10	3	13	12	7	...	7	13	12	8	20	12
Biology	3	1	4	4	19	5	24	4	5	2	7	6	...	2	2	1
Chemistry	...	...	...	...	4	2	6	...	3	...	3	3	3	2	5	...
Physics	1	...	1	...	2	3	5	4	2	1	3	2	...	...	...	...
Social Sciences	43	23	66	69	37	28	65	43	26	5	31	54	42	51	93	57
Speech	6	23	29	21	1	...	1	...	1	2	3	4	...	...	...	...
Other	...	...	...	...	...	...	...	...	1	2	3	6	59	26	85	88
HIGH SCHOOL TOTAL	430	382	812	694	272	253	525	307	136	93	229	238	253	240	493	417
GRAND TOTAL	514	872	1386	1207	371	831	1202	877	200	235	435	525	298	568	866	776

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All institutions in MASSACHUSETTS				All institutions in MICHIGAN				All institutions in MINNESOTA				All white institutions in MISSISSIPPI			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	154	1062	1216	1335	265	1710	1975	1776	63	481	544	577	16	169	185	191
90 semester hours	...	...	...	...	...	...	...	...	12	500	512	559	...	...	...	...
60 semester hours	1	2	3	2	18	257	275	227	...	...	...	...	...	...	...	...
30 semester hours	8	...	8	3	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	163	1064	1227	1340	283	1967	2250	2003	75	981	1056	1136	16	169	185	191
HIGH SCHOOL																
Agriculture	...	...	...	...	34	...	34	36	22	...	22	51	45	0	45	44
Art	18	47	65	55	45	120	165	108	17	37	54	46	2	7	9	...
Commerce	15	71	86	106	50	46	96	62	66	38	104	105	27	59	86	55
English	72	95	167	167	88	142	230	225	76	115	191	203	30	77	107	57
Foreign Language	22	24	46	35	9	39	48	58	26	14	40	50	4	3	7	17
Home Economics	...	75	75	87	...	132	132	125	...	125	125	155	0	81	81	84
Industrial Arts	19	...	19	27	105	6	111	93	65	...	65	41	17	2	19	...
Journalism	1	...	1	...	2	3	5	5	2	1	3	2	1	2	3	...
Library Science	...	...	...	...	...	17	17	21	...	...	...	3	2	22	24	...
Mathematics	37	16	53	33	53	38	91	95	47	18	65	71	41	22	63	52
Music	53	61	114	118	83	97	180	159	60	86	146	161	5	23	28	42
Physical Ed.—Men	145	...	145	159	172	...	172	107	120	...	120	90	90	...	90	72
Physical Ed.—Women	...	105	105	125	...	98	98	60	...	61	61	74	...	17	17	24
General Science	40	5	45	30	13	8	21	18	93	19	112	118	13	11	24	26
Biology	9	3	12	20	36	20	56	63	...	...	...	...	...	...	...	...
Chemistry	7	2	9	2	32	6	38	29	...	...	...	...	...	...	...	...
Physics	2	...	2	1	15	0	15	7	...	...	...	...	...	...	...	...
Social Sciences	142	64	206	204	249	143	392	329	161	53	214	190	95	29	124	94
Speech	8	15	23	22	37	39	76	82	16	31	47	43	2	16	18	...
Other	20	9	29	39	46	52	98	63	5	5	10	5	0	3	3	57
HIGH SCHOOL TOTAL	610	592	1202	1230	1069	1006	2075	1745	776	603	1379	1408	374	374	748	624
GRAND TOTAL	773	1656	2429	2570	1352	2973	4325	3748	851	1584	2435	2544	390	543	933	815

Type of Preparation	All NEGRO institutions in MISSISSIPPI				All institutions in MISSOURI				All institutions in MONTANA				All institutions in NEBRASKA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	11	138	149	84	73	680	753	993	38	31	69	112	50	251	301	365
90 semester hours	...	...	...	...	...	...	...	4	...	...	...	...	4	7	11	7
60 semester hours	...	...	...	...	6	101	107	139	30	185	215	227	26	441	467	532
30 semester hours	...	...	...	...	1	43	44	3	...	...	...	...	23	154	177	142
ELEMENTARY TOTAL	11	138	149	84	80	824	904	1139	68	216	284	339	103	853	956	1046
HIGH SCHOOL																
Agriculture	12	0	12	4	12	1	13	10	14	...	14	23	23	...	23	15
Art	3	1	4	...	10	27	37	36	6	7	13	11	5	11	16	19
Commerce	4	17	21	27	20	61	81	90	8	16	24	22	22	47	69	42
English	5	32	37	52	29	67	96	97	15	19	34	31	19	42	61	62
Foreign Language	...	...	...	...	2	10	12	13	...	1	1	4	5	9	14	15
Home Economics	0	36	36	12	...	67	67	74	...	35	35	20	...	33	33	66
Industrial Arts	10	0	10	...	40	...	40	48	11	...	11	14	45	...	45	30
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Library Science	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Mathematics	6	2	8	10	27	10	37	45	7	6	13	9	27	11	38	29
Music	0	6	6	5	40	66	106	93	9	8	17	19	32	33	65	55
Physical Ed.—Men	12	...	12	8	101	...	101	108	28	...	28	31	59	...	59	61
Physical Ed.—Women	...	8	8	8	...	47	47	47	...	13	13	19	...	11	11	5
General Science	18	3	21	30	23	2	25	15	6	2	8	...	6	2	8	4
Biology	4	6	10	...	5	4	9	20	10	4	14	8	13	4	17	17
Chemistry	2	1	3	...	3	...	3	6	2	1	3	5	5	3	8	5
Physics	...	...	...	...	2	...	2	...	5	2	7	1	6	1	7	2
Social Sciences	37	23	60	35	91	35	126	125	21	12	33	39	68	16	84	81
Speech	...	...	...	...	9	17	26	17	...	...	...	2	7	13	20	18
Other	...	...	...	19	2	1	3	3	1	...	1	...	1	8	9	42
HIGH SCHOOL TOTAL	113	135	248	210	416	415	831	847	143	126	269	258	346	244	590	568
GRAND TOTAL	124	273	397	294	496	1239	1735	1986	211	342	553	597	449	1097	1546	1614

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	NEVADA (Univ. of) Men 1955	Women 1955	Total 1955	1954	All institutions in NEW HAMPSHIRE Men 1955	Women 1955	Total 1955	1954	All institutions in NEW JERSEY Men 1955	Women 1955	Total 1955	1954	All institutions in NEW MEXICO Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	3	32	35	35	14	73	87	102	62	452	514	672	50	137	187	210
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	1	2	3	...
60 semester hours	...	...	...	2	...	...	...	...	...	...	...	...	2	3	5	...
30 semester hours	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	3	32	35	39	14	73	87	102	62	452	514	672	53	142	195	210
HIGH SCHOOL																
Agriculture	...	...	...	5	2	0	2	2	...	...	...	...	10	...	10	10
Art	...	...	...	...	0	2	2	2	1	9	10	24	4	7	11	15
Commerce	...	...	...	2	2	6	8	9	46	37	83	86	8	12	20	21
English	8	3	11	9	20	11	31	23	41	76	117	129	13	9	22	15
Foreign Language	1	1	2	1	2	6	8	9	10	27	37	43	6	4	10	5
Home Economics	...	...	...	1	0	6	6	12	...	10	10	21	...	22	22	20
Industrial Arts	...	...	...	...	8	0	8	17	10	...	10	28	17	...	17	19
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Library Science	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mathematics	2	1	3	4	8	11	19	8	5	31	36	45	4	...	4	14
Music	...	...	...	1	1	1	2	6	5	16	21	27	4	8	12	11
Physical Ed.--Men	6	...	6	5	1	0	1	2	42	...	42	88	30	...	30	41
Physical Ed.--Women	...	5	5	2	0	8	8	14	...	38	38	31	...	14	14	7
General Science	2	...	2	1	6	1	7	3	15	15	30	39	4	...	4	7
Biology	...	1	1	1	5	0	5	0	4	11	15	14	...	1	1	9
Chemistry	1	...	1	...	...	...	0	1	...	...	...	8	...	1	1	2
Physics	...	...	...	...	...	...	...	...	3	6	9	1	1	...	1	...
Social Sciences	6	3	9	5	25	4	29	36	73	64	137	144	28	7	35	32
Speech	...	...	...	...	...	...	...	...	5	5	10	8	1	1	2	6
Other	...	...	...	...	...	...	...	...	...	15	15	10	2	2	4	5
HIGH SCHOOL TOTAL	26	14	40	37	80	56	136	144	260	360	620	746	133	88	221	239
GRAND TOTAL	29	46	75	76	94	129	223	246	322	812	1134	1418	186	230	416	449

Type of Preparation	All institutions in NEW YORK Men 1955	Women 1955	Total 1955	1954	All white institutions in NORTH CAROLINA Men 1955	Women 1955	Total 1955	1954	All Negro institutions in NORTH CAROLINA Men 1955	Women 1955	Total 1955	1954	All institutions in NORTH DAKOTA Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	546	3371	3917	4434	38	658	696	716	77	512	589	550	17	58	75	63
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	38	304	342	276
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	47	317	364	266
ELEMENTARY TOTAL	546	3371	3917	4434	38	658	696	716	77	512	589	550	102	679	781	605
HIGH SCHOOL																
Agriculture	31	...	31	16	46	...	46	69	28	...	28	32	20	...	20	19
Art	111	233	344	344	4	22	26	20	3	2	5	1	1	3	4	4
Commerce	95	172	267	302	48	123	171	148	6	112	118	80	21	35	56	47
English	122	154	276	281	57	146	203	224	9	41	50	46	13	30	43	26
Foreign Language	43	67	110	126	7	27	34	32	5	10	15	16	1	2	3	1
Home Economics	...	258	258	285	...	117	117	115	...	65	65	59	...	39	39	44
Industrial Arts	165	9	174	202	30	...	30	24	20	...	20	17	15	...	15	9
Journalism	...	...	0	1	...	...	...	...	...	...	...	...	...	...	...	1
Library Science	5	27	32	54	3	15	18	6	...	16	16	1	...	...	...	...
Mathematics	74	49	123	112	69	55	124	94	18	18	36	21	19	5	24	25
Music	239	291	530	586	19	58	77	57	23	13	36	20	17	20	37	23
Physical Ed.--Men	261	...	261	335	138	...	138	130	33	...	33	26	37	...	37	41
Physical Ed.--Women	...	229	229	226	...	57	57	67	...	24	24	16	...	13	13	8
General Science	124	57	181	167	35	27	62	68	41	20	61	56	10	3	13	15
Biology	...	...	...	...	11	20	31	19	15	14	29	20	6	3	9	7
Chemistry	...	...	...	...	...	2	2	5	7	2	9	3	5	...	5	2
Physics	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Social Sciences	247	96	343	321	72	78	150	121	57	53	110	77	44	14	58	44
Speech	41	101	142	114	...	...	...	...	...	...	...	...	...	5	5	2
Other	...	82	82	40	15	22	37	22	7	10	17	10	1	4	5	6
HIGH SCHOOL TOTAL	1558	1825	3383	3512	554	769	1323	1221	272	400	672	504	210	176	386	324
GRAND TOTAL	2104	5196	7300	7946	592	1427	2019	1937	349	912	1261	1054	312	855	1167	929

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All institutions in OHIO				All institutions in OKLAHOMA				All institutions in OREGON				All institutions in PENNSYLVANIA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	124	1049	1173	1292	63	610	673	759	143	404	547	533	165	1265	1430	1443
90 semester hours	...	...	...	...	...	...	...	...	21	81	102	229	...	...	...	...
60 semester hours	44	498	542	319	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	168	1547	1715	1611	63	610	673	759	164	485	649	762	165	1265	1430	1443
HIGH SCHOOL																
Agriculture	3	...	3	3	71	0	71	54	17	...	17	17	89	17	106	32
Art	23	67	90	129	13	26	39	20	4	10	14	11	32	73	105	144
Commerce	72	75	147	118	70	134	204	173	24	17	41	34	65	162	227	273
English	106	108	214	219	25	70	95	114	25	29	54	28	145	197	342	328
Foreign Language	35	85	120	108	2	9	11	13	6	7	13	11	34	57	91	112
Home Economics	...	126	126	113	0	164	164	191	...	36	36	45	...	196	196	242
Industrial Arts	87	...	87	95	137	0	137	121	15	...	15	21	55	2	57	89
Journalism	1	2	3	1	2	0	2	3	1	1	2	4	...	...	...	...
Library Science	...	1	1	...	0	4	4	5	...	...	...	2	2	22	24	33
Mathematics	51	14	65	115	55	16	71	68	15	8	23	17	107	43	150	167
Music	103	112	215	297	55	66	121	137	23	22	45	45	94	142	236	244
Physical Ed.—Men	215	...	215	273	102	0	102	79	65	...	65	61	153	...	153	136
Physical Ed.—Women	...	134	134	136	0	25	25	24	...	25	25	27	...	120	120	120
General Science	48	22	70	52	15	10	25	40	11	5	16	22	108	21	129	102
Biology	40	63	103	110	44	10	54	30	15	7	22	11	60	34	94	110
Chemistry	39	3	42	39	26	2	28	7	11	1	12	11	29	24	53	32
Physics	15	3	18	12	5	0	5	3	2	...	2	8	7	3	10	18
Social Sciences	152	134	286	234	138	41	179	161	63	11	74	44	382	118	500	493
Speech	43	72	115	95	19	25	44	23	14	12	26	8	17	12	29	30
Other	32	28	60	67	4	29	33	19	1	2	3	4	54	47	101	14
HIGH SCHOOL TOTAL	1065	1049	2114	2216	783	631	1414	1285	312	193	505	431	1433	1290	2723	2719
GRAND TOTAL	1233	2596	3829	3827	846	1241	2087	2044	476	678	1154	1193	1598	2555	4153	4162

Type of Preparation	All institutions in RHODE ISLAND				All white institutions in SOUTH CAROLINA				All Negro institutions in SOUTH CAROLINA				All institutions in SOUTH DAKOTA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	2	75	77	95	7	215	222	221	24	334	358	362	9	79	88	112
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	19	309	328	330
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	26	308	334	326
ELEMENTARY TOTAL	2	75	77	95	7	215	222	221	24	334	358	362	54	696	750	768
HIGH SCHOOL																
Agriculture	...	...	...	1	32	...	32	35	36	...	36	23	19	...	19	19
Art	...	5	5	6	1	7	8	6	2	...	2	2	1	2	3	7
Commerce	7	10	17	17	3	72	75	41	7	18	25	11	25	21	46	29
English	24	9	33	43	21	71	92	87	6	25	31	37	15	35	50	36
Foreign Language	3	...	3	2	...	6	6	12	...	...	...	2	...	1	1	1
Home Economics	...	6	6	13	...	58	58	57	...	46	46	33	...	28	28	36
Industrial Arts	...	...	...	...	14	...	14	16	17	1	18	19	15	2	17	14
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Library Science	...	...	...	...	...	7	7	3	...	17	17	8	...	...	...	...
Mathematics	4	3	7	8	21	8	29	33	4	6	10	15	13	2	15	21
Music	1	...	1	...	10	45	55	37	2	3	5	6	11	17	28	29
Physical Ed.—Men	5	...	5	7	51	...	51	54	28	...	28	16	48	...	48	41
Physical Ed.—Women	...	...	...	...	...	28	28	21	...	5	5	8	...	17	17	7
General Science	7	2	9	12	18	7	25	33	7	8	15	18	3	...	3	4
Biology	2	1	3	...	4	12	16	13	27	7	34	17	4	5	9	8
Chemistry	...	...	...	...	1	1	2	4	5	2	7	10	8	1	9	4
Physics	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3	6
Social Sciences	21	5	26	30	68	37	105	64	37	10	47	43	34	19	53	52
Speech	...	...	...	...	...	3	3	2	10	...	10	...	5	7	12	17
Other	...	...	...	...	...	...	...	...	...	...	...	...	20	11	31	23
HIGH SCHOOL TOTAL	74	41	115	139	244	362	606	518	188	148	336	268	223	169	392	354
GRAND TOTAL	76	116	192	234	251	577	828	739	212	482	694	630	277	865	1142	1122

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, and Hawaii, by Sex and by Major Field in 1955, and by Major Field in 1954

Type of Preparation	All institutions in TENNESSEE				All institutions in TEXAS				All institutions in UTAH				All institutions in VERMONT			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	78	616	694	714	226	1640	1866	1792	93	393	486	402	27	95	122	123
90 semester hours	...	...	...	...	30	349	379	218	...	...	...	...	...	...	...	...
60 semester hours	24	86	110	159	58	412	470	312	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	27	170	197	135	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	102	702	804	873	341	2571	2912	2457	93	393	486	402	27	95	122	123
HIGH SCHOOL																
Agriculture	54	...	54	49	286	...	286	228	18	...	18	27	6	0	6	6
Art	7	7	14	15	18	65	83	55	12	6	18	19	...	...	...	1
Commerce	50	103	153	152	180	263	443	433	25	47	72	22	...	8	8	5
English	35	111	146	214	88	231	319	270	13	26	39	26	7	3	10	23
Foreign Language	8	26	34	28	17	37	54	79	3	3	6	13	2	5	7	17
Home Economics	...	163	163	164	...	334	334	336	...	55	55	45	...	13	13	10
Industrial Arts	69	2	71	42	147	...	147	133	22	...	22	16	...	...	...	3
Journalism	...	...	...	...	14	15	29	26	...	...	...	2	...	...	...	...
Library Science	...	2	2	2	4	36	40	33	...	...	...	...	...	...	...	...
Mathematics	31	28	59	48	66	44	110	119	14	1	15	10	3	5	8	5
Music	42	91	133	115	137	211	348	266	20	9	29	26	...	2	2	2
Physical Ed.—Men	164	...	164	137	446	...	446	389	57	...	57	43	1	...	1	1
Physical Ed.—Women	...	101	101	71	...	199	199	204	...	40	40	35	...	...	...	...
General Science	28	20	48	60	27	16	43	26	11	2	13	14	2	0	2	3
Biology	44	24	68	76	51	27	78	89	13	3	16	21	1	...	1	1
Chemistry	22	7	29	29	52	21	73	52	6	...	6	5	...	...	...	3
Physics	1	...	1	1	7	...	7	9	2	...	2	1	...	...	...	...
Social Sciences	159	126	285	346	275	174	449	517	68	6	74	65	19	4	23	35
Speech	8	8	16	12	43	74	117	103	14	10	24	4	1	...	1	...
Other	11	5	16	20	244	279	523	525	10	...	10	6	3	7	10	9
HIGH SCHOOL TOTAL	733	824	1557	1581	2102	2026	4128	3892	308	208	516	400	45	47	92	124
GRAND TOTAL	835	1526	2361	2454	2443	4597	7040	6349	401	601	1002	802	72	142	214	247

Type of Preparation	All white institutions in VIRGINIA				All Negro institutions in VIRGINIA				All institutions in WASHINGTON				All white institutions in WEST VIRGINIA			
	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954	Men 1955	Women 1955	Total 1955	1954
ELEMENTARY																
120 semester hours	6	341	347	436	7	148	155	176	179	474	653	767	40	203	243	318
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	8	14	22	45
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	10	83	93	108
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	6	341	347	436	7	148	155	176	179	474	653	767	58	300	358	471
HIGH SCHOOL																
Agriculture	18	...	18	24	14	...	14	16	8	...	8	5	15	...	15	16
Art	8	7	15	23	8	1	9	9	19	12	31	38	7	11	18	20
Commerce	13	60	73	56	3	32	35	19	17	14	31	32	18	35	53	56
English	18	63	81	73	4	10	14	20	31	48	79	64	26	33	59	59
Foreign Language	5	23	28	16	...	1	1	3	8	11	19	10	4	2	6	7
Home Economics	...	51	51	51	...	24	24	32	...	67	67	51	...	73	73	57
Industrial Arts	5	...	5	10	27	3	30	49	58	...	58	56	23	...	23	24
Journalism	...	...	...	...	...	...	...	...	2	3	5	3	...	...	...	...
Library Science	...	9	9	16	...	4	4	9	...	...	...	...	...	5	5	7
Mathematics	19	14	33	42	3	5	8	14	36	5	41	32	20	6	26	28
Music	10	30	40	44	11	19	30	19	48	29	77	63	10	22	32	45
Physical Ed.—Men	39	...	39	22	11	...	11	14	88	...	88	98	79	...	79	100
Physical Ed.—Women	...	55	55	41	...	11	11	18	...	38	38	52	...	34	34	28
General Science	9	8	17	12	17	4	21	12	15	1	16	9	10	3	13	10
Biology	6	8	14	11	7	3	10	4	11	4	15	26	15	10	25	26
Chemistry	13	7	20	7	2	1	3	2	4	1	5	6	5	1	6	3
Physics	7	2	9	...	...	...	...	...	3	...	3	5	3	1	4	4
Social Sciences	25	50	75	105	19	18	37	35	138	45	183	170	40	25	65	64
Speech	8	3	11	2	2	8	10	2	11	11	22	20	4	7	11	6
Other	...	...	...	...	19	2	21	22	19	11	30	18	...	...	...	...
HIGH SCHOOL TOTAL	203	390	593	555	147	146	293	299	516	300	816	758	279	268	547	560
GRAND TOTAL	209	731	940	991	154	294	448	475	695	774	1469	1525	337	568	905	1031

APPENDIX A—Concluded

Type of Preparation	All Negro institutions in WEST VIRGINIA				All institutions in WISCONSIN				All institutions in WYOMING				Type of Preparation
	Men 1955	Women 1955	Total 1955	Total 1954	Men 1955	Women 1955	Total 1955	Total 1954	Men 1955	Women 1955	Total 1955	Total 1954	
ELEMENTARY													ELEMENTARY
120 semester hours	4	39	43	60	104	629	733	901	1	23	24	29	120 semester hours
90 semester hours	...	2	2	2	1	42	43	59	...	...	...	...	90 semester hours
60 semester hours	...	...	...	1	104	564	668	645	1	41	42	...	60 semester hours
30 semester hours	...	...	...	...	...	...	...	...	...	5	5	2	30 semester hours
ELEMENTARY TOTAL	4	41	45	63	209	1235	1444	1605	2	69	71	31	ELEMENTARY TOTAL
HIGH SCHOOL													HIGH SCHOOL
Agriculture	3	...	3	4	61	...	61	63	10	...	10	9	Agriculture
Art	1	...	1	...	25	48	73	55	1	...	1	1	Art
Commerce	3	10	13	15	23	45	68	64	1	5	6	3	Commerce
English	1	5	6	3	49	108	157	136	1	3	4	5	English
Foreign Language	3	5	8	6	8	27	35	25	...	...	...	...	Foreign Language
Home Economics	...	8	8	10	...	107	107	107	...	12	12	4	Home Economics
Industrial Arts	5	2	7	14	87	...	87	126	5	...	5	3	Industrial Arts
Journalism	...	...	...	...	1	3	4	1	...	...	...	...	Journalism
Library Science	...	...	...	...	...	...	...	1	...	...	...	...	Library Science
Mathematics	3	...	3	2	38	12	50	60	...	...	...	1	Mathematics
Music	6	4	10	8	49	58	107	88	2	4	6	1	Music
Physical Ed.--Men	24	...	24	14	41	...	41	56	14	...	14	22	Physical Ed.--Men
Physical Ed.--Women	...	9	9	9	...	48	48	50	...	3	3	5	Physical Ed.--Women
General Science	6	5	11	9	39	7	46	30	1	...	1	2	General Science
Biology	2	1	3	7	38	14	52	47	...	...	...	...	Biology
Chemistry	...	...	...	...	21	6	27	29	...	...	...	...	Chemistry
Physics	1	...	1	2	8	1	9	11	...	...	...	...	Physics
Social Sciences	13	7	20	17	112	55	167	145	7	1	8	5	Social Sciences
Speech	...	...	...	...	10	63	73	84	...	...	...	...	Speech
Other	...	...	...	...	8	30	38	44	3	...	3	...	Other
HIGH SCHOOL TOTAL	71	56	127	120	618	632	1250	1222	45	28	73	61	HIGH SCHOOL TOTAL
GRAND TOTAL	75	97	172	183	827	1867	2694	2827	47	97	144	92	GRAND TOTAL

APPENDIX B

TABLE I. Demand for Teachers—Alabama (White)

NUMBER OF NEW WHITE ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN ALABAMA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the colum. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Alabama college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	ALABAMA (White) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total DEMAND for Teachers	1 Total SUPPLY of Teachers
1	Agriculture	11																				11	47
2	Art		6				1												1			8	4
3	Commerce			47	3														2			52	64
4	English	1		1	78	1			1	2	5			3	4				21			117	110
5	Foreign Language				3	4																7	20
6	Home Economics						49							1	1				7			58	84
7	Industrial Arts							7														7	15
8	Journalism								1													1	
9	Library Science				1					13					1				2			17	7
10	Mathematics				2						32		2		6	1	1	1	8			53	34
11	Music				5			1				49			2				1			54	42
12	Phys. Ed.—Men	2			1						2		30		15	1			8			61	79
13	Phys. Ed.—Women				3						2	1		34	3	1			1			49	41
14	General Science	1			4	1					5		6	2	32	9	1		4			65	25
15	Biology										1					2	2	2				7	28
16	Chemistry						1				1						4		1			7	14
17	Physics																	1				1	3
18	Social Science	3		3	17	1					5		3		5		1		67			105	161
19	Speech				2															4		6	13
20	Other																						6
21	High School Total																					686	809
22	Elementary School Total	(One room, 5; lower grades, 359; upper grades, 280)																				644	111

APPENDIX B—Continued

TABLE II. Demand for Teachers—Alabama (Negro)

NUMBER OF NEW NEGRO ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN ALABAMA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Alabama college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment	COLUMN NUMBER Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	ALABAMA (Negro) 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	2						1											1			4	8
2	Art		1																			1	7
3	Commerce			8	5									1								14	27
4	English				22	1				2	1	4		2					20			52	77
5	Foreign Language				1	1							1									3	4
6	Home Economics				1		10							1								12	45
7	Industrial Arts				1			7							1							9	3
8	Journalism																						
9	Library Science				4					5									1			10	
10	Mathematics										8		2	1	6				2			21	
11	Music				1							14		2	1				3			21	45
12	Phys. Ed.—Men	2						1			1		8		3				5			20	12
13	Phys. Ed.—Women		1		1									9								11	7
14	General Science					1					10		2		8	1	1					23	4
15	Biology														1	1	2	1				5	24
16	Chemistry																1	2	1			4	4
17	Physics										1			1								2	4
18	Social Science				7			1			2	2	1	2	5				14			34	181
19	Speech																			1		1	1
20	Other																						18
21	High School Total																					247	472
22	Elementary School Total (One room, 19; lower grades, 118; upper grades, 106)																					243	671

TABLE III. Demand for Teachers—Arizona

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN ARIZONA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Arizona college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment	COLUMN NUMBER Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	ARIZONA 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	2																				2	
2	Art		2																	1		3	5
3	Commerce			3																		3	26
4	English				11				1			2										14	33
5	Foreign Language					2																2	12
6	Home Economics						4															4	20
7	Industrial Arts		1					10														11	32
8	Journalism								1													1	1
9	Library Science				2																	2	
10	Mathematics							2			6	1										9	4
11	Music			1								7										8	19
12	Phys. Ed.—Men												2						2			4	27
13	Phys. Ed.—Women													1								1	15
14	General Science	1									4		1		4	1						11	7
15	Biology															1						1	13
16	Chemistry																						
17	Physics																						4
18	Social Science					2													6			8	35
19	Speech																			1		1	2
20	Other																						
21	High School Total																					87	255
22	Elementary School Total (One room, 1; lower grades, 120; upper grades, 103)																					224	355

APPENDIX B—Continued

TABLE IV. Demand for Teachers—Arkansas

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN ARKANSAS IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Arkansas college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	ARKANSAS 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	26													2							28	46
2	Art		1																			1	7
3	Commerce			35	9					1	4		2		1				12			64	80
4	English			7	57				2	9	6	6	1	4	15				19	4	6	136	75
5	Foreign Language					4													1			5	2
6	Home Economics					1	55				1			1	2				1	1	1	63	98
7	Industrial Arts							8											1			9	19
8	Journalism																						
9	Library Science				2					10									1		1	14	
10	Mathematics			3	6						37		16	4	17				19	1		103	28
11	Music				1							35								1		37	60
12	Phys. Ed.—Men										2		19	8	6				14			49	127
13	Phys. Ed.—Women													14					4			18	25
14	General Science				4	1	1			1	12		4	2	35				17		1	78	20
15	Biology																						6
16	Chemistry																						
17	Physics																						2
18	Social Science			4	18					3	13	1	20	7	9				30		3	108	154
19	Speech				2																	2	14
20	Other					1							1	1					1		9	13	6
21	High School Total																					728	769
22	Elementary School Total	(One room, 10; lower grades, 308; upper grades, 320)																				638	485

TABLE V. Demand for Teachers—California

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN CALIFORNIA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	CALIFORNIA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	23																				23	67
2	Art		96																			96	229
3	Commerce			75																		75	142
4	English																						259
5	Foreign Language																						119
6	Home Economics						306															306	155
7	Industrial Arts							186														186	161
8	Journalism																						
9	Library Science																						29
10	Mathematics																						87
11	Music											174										174	210
12	Phys. Ed.—Men												124									124	312
13	Phys. Ed.—Women													200								200	190
14	General Science																						
15	Biology																						161
16	Chemistry																						35
17	Physics																						44
18	Social Science																						509
19	Speech																			16		16	149
20	Other																				3206	3206	670
21	High School Total																					4406	3522
22	Elementary School Total	(Kindergarten-primary, 751; general elementary, 7350)																				8101	3291

Note: In line 20 column 20 are included the new teachers of the general academic subjects (such as English, foreign languages, mathematics, science, and social science) plus new teachers in certain specialized fields, because these new teachers cannot be reported separately by teaching field. The figures shown in this table are not included in composite table.

APPENDIX B—Continued

TABLE VI. Demand for Teachers—Connecticut

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN CONNECTICUT IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Connecticut college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment ↘ COLUMN NUMBER / Minor Assignment	CONNECTICUT 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture																					11	
2	Art		4																			10	20
3	Commerce			10																		47	37
4	English				28						1			1	1				14	1	1	15	18
5	Foreign Language				6	7																50	16
6	Home Economics				1		30				1											18	17
7	Industrial Arts							17			1												
8	Journalism																						
9	Library Science									1	1								1			3	13
10	Mathematics			2				1		3	13				8				2			26	24
11	Music											3										3	21
12	Phys. Ed.—Men												5									5	50
13	Phys. Ed.—Women				1									13						1		15	19
14	General Science										5		1		1	1			1		1	12	5
15	Biology														1	3						4	10
16	Chemistry															1						1	5
17	Physics																						3
18	Social Science				10	2									1			1	20	1		35	70
19	Speech																						
20	Other																				14	14	5
21	High School Total																					247	363
22	Elementary School Total	(One room, 11 lower grades, 490; upper grades, 452)																				943	413

TABLE VII. Demand for Teachers—District of Columbia

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN THE DISTRICT OF COLUMBIA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 District of Columbia college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment ↘ COLUMN NUMBER / Minor Assignment	DIST. OF COLUMBIA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture																					5	9
2	Art		5																			15	11
3	Commerce		15																11		1	21	16
4	English				7	1					1											5	10
5	Foreign Language				4	1																5	3
6	Home Economics						5															6	2
7	Industrial Arts							6															
8	Journalism																						
9	Library Science																						
10	Mathematics			2	3	1		1			9				3			1	2			22	7
11	Music											10										10	14
12	Phys. Ed.—Men												1		1							4	18
13	Phys. Ed.—Women										1				12				1			14	18
14	General Science																	1				1	5
15	Biology															1	1					2	2
16	Chemistry																	1				1	1
17	Physics																						
18	Social Science				4														11			15	46
19	Speech																						
20	Other																				24	24	
21	High School Total																					150	175
22	Elementary School Total																					133	111

APPENDIX B—Continued

TABLE VIII. Demand for Teachers—Illinois

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN ILLINOIS IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Illinois college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment ↘	ILLINOIS 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	50									4				1	7						54	46
2	Art		34		5							2										41	38
3	Commerce			120				3					5							10		267	255
4	English				250				2	5												81	93
5	Foreign Language				11	50																247	177
6	Home Economics				4		202								3		8					102	104
7	Industrial Arts							86			5							3	8			9	1
8	Journalism					2			7													69	18
9	Library Science				11				2	56												102	104
10	Mathematics										80						10	12				109	250
11	Music		12		3					2		92										110	247
12	Phys. Ed.—Men												96					8	6			136	147
13	Phys. Ed.—Women													125	6			3	2			77	43
14	General Science				5			1							70				1			81	102
15	Biology				3						2					74			2			80	37
16	Chemistry												5				70	2	3			43	27
17	Physics																2	40	1			220	322
18	Social Science	3			12														200	5		55	113
19	Speech				5															50		8	113
20	Other																				8	1979	2449
21	High School Total																						
22	Elementary School Total	(One room, 105; lower grades, 1478; upper grades, 720)																				2303	2030

TABLE IX. Demand for Teachers—Indiana

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN INDIANA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Indiana college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment ↘	INDIANA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	22		1	1			1					3		2	13	4	1		1		49	46
2	Art		37		8					1		2		2					1			27	38
3	Commerce	1	8	60						3	5	2	7	10			1	3		3		111	116
4	English	2	6	1	95	22	2		2	13	1	5	1	10		1		1	29	6	2	199	160
5	Foreign Language				9	12	1					1		2		1				1		27	39
6	Home Economics		1	1	7		67			1		1		18	1	15			4		2	120	112
7	Industrial Arts			2				44	1				9					1	2		2	61	57
8	Journalism								2					1								3	
9	Library Science				6					8		1		1								15	1
10	Mathematics	2	1	1	8	1					32	1	8	2	6	4	7	15	6		2	96	70
11	Music		7	2	15	1						88	2	5					3		3	138	146
12	Phys. Ed.—Men			1	1			2			3		18	1	2	1	1		11	1		42	209
13	Phys. Ed.—Women		2	2	11									22	2	1	1		3		1	45	82
14	General Science	1						1			5		2	3	7	1			1			21	70
15	Biology	1			1						2		1	1	4	10	1	1	1			22	32
16	Chemistry										3	1				3	7		1			15	11
17	Physics										1						1	4				6	10
18	Social Science	1		3	13	3		1		1	3		27	4		2	1	2	37	1	3	100	161
19	Speech					1							1		1					8	2	13	30
20	Other																				23	23	14
21	High School Total																					1143	1440
22	Elementary School Total																					1377	740

APPENDIX B—Continued

TABLE X. Demand for Teachers—Kansas

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN KANSAS IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Kansas college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment — COLUMN NUMBER / Minor Assignment	KANSAS 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	16									1		1								1	19	27
2	Art	1	12																1			14	17
3	Commerce			41			5	1			6		1		2				1	1		60	44
4	English		1	6	64	3	10		2	2		3	2	2	1				9			105	88
5	Foreign Language				7	2				1												10	8
6	Home Economics		1	1	6		64			1	1			3	2	1	1		2			85	97
7	Industrial Arts	1	1	2	1			17			1	1	5	1					4		2	36	48
8	Journalism				3				2					1	1							7	2
9	Library Science				1		1			4									1			9	2
10	Mathematics					1		1			22	2	2		3			5	3		1	40	38
11	Music				4							70		1		1			2		1	79	97
12	Phys. Ed.—Men											1	9	1	2	1			6		2	22	93
13	Phys. Ed.—Women			1	3									18					2			24	32
14	General Science						1				5			6	19	9	1	5	1		1	48	13
15	Biology										2				2	2	3	2	1		2	14	25
16	Chemistry						1								3	1						5	13
17	Physics							1			1				1	1	2		1			7	5
18	Social Science	2		2	6			1					7	1	4	2		1	33		2	61	111
19	Speech				3								4									7	21
20	Other														2	1					13	16	15
21	High School Total																					668	796
22	Elementary School Total	(One room, 121; lower grades, 652; upper grades, 527)																				1300	445

TABLE XI. Demand for Teachers—Kentucky

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN KENTUCKY IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Kentucky college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment — COLUMN NUMBER / Minor Assignment	KENTUCKY 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	12						1														13	69
2	Art		3		2						1								1			7	22
3	Commerce			43	7	1				3			3						2			59	114
4	English			1	48	3					2	2		1	1	2			29	6	1	96	103
5	Foreign Language				2	2																4	10
6	Home Economics			1	3		42					1			6	2	1		2		4	62	93
7	Industrial Arts			1				10														11	29
8	Journalism				1																	1	
9	Library Science				2					9					1							12	17
10	Mathematics			2							36		1		1	1	3	3	4		1	52	30
11	Music				1							39							1			41	116
12	Phys. Ed.—Men				1						1		22		6	3		1	6		3	43	100
13	Phys. Ed.—Women				1						1			9	1	1					2	15	49
14	General Science				3						5		1		9	7	1		3	1		30	7
15	Biology										3		2		3	1	3		2		2	16	39
16	Chemistry										1			1		1	1					4	20
17	Physics										1		1			1						3	5
18	Social Science		1		7	1					5		5	3	5	4	1		57		1	90	179
19	Speech				2																	2	4
20	Other	1		1	1					1		1	1						2		64	72	
21	High School Total																					693	1006
22	Elementary School Total	(One room, 252; multiple-room schools, 716)																				968	804

The Kentucky report is incomplete; it is based upon information supplied by 196 of 224 districts.

APPENDIX B—Continued

TABLE XII. Demand for Teachers—Maine

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MAINE IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Maine college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment ↘	MAINE 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	3																	1			4	
2	Art		3																			3	7
3	Commerce			27									1									28	27
4	English				21	14									2				12	1		50	31
5	Foreign Language				4	7													3			14	12
6	Home Economics						30															30	36
7	Industrial Arts							8														8	12
8	Journalism																						
9	Library Science																		1		1	25	4
10	Mathematics				1						3				19				1			12	6
11	Music											12									2	12	20
12	Phys. Ed.—Men												2		3				5			8	5
13	Phys. Ed.—Women													7					1			16	13
14	General Science										4				7				5			1	6
15	Biology																				1		1
16	Chemistry																						2
17	Physics																						
18	Social Science				6	1					7			1	6				25		1	47	54
19	Speech				1																	1	4
20	Other																				2	2	6
21	High School Total																					261	238
22	Elementary School Total	(One room, 46; lower grades, 264; upper grades, 225)																				535	263

TABLE XIII. Demand for Teachers—Maryland

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MARYLAND IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Maryland college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment ↘	MARYLAND 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	5													1				1		1	6	12
2	Art		40							1												41	21
3	Commerce			33	1						4								2		1	43	14
4	English		1	1	52	4			1	1	2								27	1	1	92	46
5	Foreign Language				1	15					1								1			18	18
6	Home Economics				1		46								3	1				1		52	24
7	Industrial Arts							45			1				1						1	48	19
8	Journalism																				2	13	
9	Library Science									11												11	
10	Mathematics			1		1					78				31	1			2			114	17
11	Music				4	1					2	65				1				1		74	43
12	Phys. Ed.—Men										1		22		2				1			26	30
13	Phys. Ed.—Women				2						1			45	6	1						57	14
14	General Science					1		1			8	1	1		35	3		2	4		2	58	12
15	Biology														2	3	1		1		1	8	1
16	Chemistry															1	2					3	
17	Physics																	1				2	
18	Social Science			1	25	2				1	2	1			1				38		3	74	57
19	Speech																			1		3	
20	Other			2	10	1					24	1	1	2	2	2			11		149	207	88
21	High School Total																					920	417
22	Elementary School Total	(One room, 4; lower grades, 703; upper grades, 439; other, 87)																				1233	317

APPENDIX B—Continued

TABLE XIV. Demand for Teachers—Minnesota

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MINNESOTA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Minnesota college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment	COLUMN NUMBER / Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	MINNESOTA 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	27									1				3							31	51
2	Art		18	1	2							1							1			23	46
3	Commerce			78	5					1	4	1	1	4					6		4	104	109
4	English		3	1	135	16	1		4	42	1	4		25	6				53	33		325	201
5	Foreign Language				1	3													1			5	50
6	Home Economics		2		1		123			2	1			9	9				1			148	155
7	Industrial Arts				3			45			3		3		6				2		5	67	41
8	Journalism																						2
9	Library Science				4					12					1				1			18	3
10	Mathematics			2	2	1		1		1	55	1	8	5	39				13			128	71
11	Music			1	11	1					1	96		1	3				9			123	161
12	Phys. Ed.—Men							1			2		14		3				3		1	24	90
13	Phys. Ed.—Women		1		4						1			48	5				7			66	74
14	General Science			1	2		1	3			36		11	6	59				7		4	130	118
15	Biology																						
16	Chemistry																						
17	Physics																						
18	Social Science		3	9	18	1		2	1	2	6	1	24	9	11				92	1	4	184	190
19	Speech				2															5		7	43
20	Other												1		1						2	4	5
21	High School Total																					1387	1408
22	Elementary School Total	(One room, 515; grades, 1122)																				1637	577

TABLE XV. Demand for Teachers—Mississippi (White)

NUMBER OF NEW WHITE ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MISSISSIPPI IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Mississippi college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment	COLUMN NUMBER / Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	MISSISSIPPI (White) 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	10																				10	44
2	Art																						
3	Commerce			49																		49	55
4	English				70																	70	57
5	Foreign Language					7																7	17
6	Home Economics						33															33	84
7	Industrial Arts																						
8	Journalism																						
9	Library Science																						
10	Mathematics										48											48	52
11	Music											33										33	42
12	Phys. Ed.—Men												27									27	78
13	Phys. Ed.—Women																						24
14	General Science														53							53	26
15	Biology																						
16	Chemistry																						
17	Physics																						
18	Social Science																		60			60	94
19	Speech																						
20	Other																				23	23	57
21	High School Total																					413	624
22	Elementary School Total																					447	198

In Mississippi it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in composite table.

APPENDIX B—Continued

TABLE XVI. Demand for Teachers—Mississippi (Negro)

NUMBER OF NEW NEGRO ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MISSISSIPPI IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Mississippi college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	MISSISSIPPI (Negro) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	5																				5	4
2	Art																						
3	Commerce			15																		15	27
4	English				44																	44	52
5	Foreign Language					5																5	
6	Home Economics						14															14	12
7	Industrial Arts																						
8	Journalism																						
9	Library Science																						
10	Mathematics										32											32	10
11	Music											13										13	5
12	Phys. Ed.—Men												16									16	8
13	Phys. Ed.—Women																						
14	General Science														45							45	10
15	Biology																						
16	Chemistry																						
17	Physics																						
18	Social Science																		49			49	35
19	Speech																						
20	Other																				21	21	19
21	High School Total																					259	210
22	Elementary School Total																					312	84

In Mississippi it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in composite table.

TABLE XVII. Demand for Teachers—Missouri

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MISSOURI IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Missouri college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	MISSOURI 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	50						1			4		3		2							60	10
2	Art		57		3		2												1	1		64	36
3	Commerce			170	12				1		3		6		1				6	1		200	90
4	English	1	3	3	271	19	3		10	1	4	4	3		2				44	25		393	97
5	Foreign Languages				7	32					1								2			42	13
6	Home Economics		2	1	4		186				1				12	4			3			213	72
7	Industrial Arts	3						64			4		5		1				3			80	48
8	Journalism				1				6													7	
9	Library Science				1	1				12					1							15	
10	Mathematics	2			2						174	2	3		19	4	1	3	6	1		217	45
11	Music		1	2	6		1				3	113							2			128	99
12	Phys. Ed.—Men	1		1	1			4			4		114		5	4			24			158	108
13	Phys. Ed.—Women			1	3						1			41		1			2			49	47
14	General Science	2			1		2				19	1	8		122	12		4	4			175	13
15	Biology	1		1			1						2		4	49	1	2	4			65	20
16	Chemistry										2		1		4	1	21	1				30	6
17	Physics										2				1			10				13	
18	Social Science	1	1	1	12	2	2	1	1		17	1	12	1	2	1			320			375	125
19	Speech				2	2													1	38		43	17
20	Other																				51	51	3
21	High School Total																					2378	847
22	Elementary School Total	(Rural, 616; lower grades, 840; upper grades, 683)																				2139	993

APPENDIX B—Continued

TABLE XVIII. Demand for Teachers—Montana

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN MONTANA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Montana college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	MONTANA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	1			2							1			1							4	23
2	Art				2							1			1							4	11
3	Commerce			1	1	1	1				1			1					2	1	7	16	22
4	English		1	1	1	3													6		4	16	31
5	Foreign Language				1																	1	4
6	Home Economics			4										3	2	1			1		6	17	20
7	Industrial Arts	1			1							1									3	6	14
8	Journalism																						
9	Library Science					1									1		1		1		1	5	9
10	Mathematics			1	3		2								2	3			3		4	12	19
11	Music			2				1			3				2	3			3		6	20	34
12	Phys. Ed.—Men			3	1		3												3		1	8	19
13	Phys. Ed.—Women			1							4		2						2		1	10	
14	General Science														1						1	2	8
15	Biology																				1	1	5
16	Chemistry																						1
17	Physics																						1
18	Social Science				4						2	1		1		1					1	10	39
19	Speech																						2
20	Other			1	5		1				2				1	1		1			5	17	
21	High School Total																					149	258
22	Elementary School Total	(One room, 61; lower grades, 111; upper grades, 74; other, 5)																				251	112

TABLE XIX. Demand for Teachers—Nebraska

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEBRASKA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Nebraska college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	NEBRASKA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	18																				18	15
2	Art		4																			4	19
3	Commerce			50								1	1	1					1			54	43
4	English			2	35		3		1		5	3	1			1			9			120	62
5	Foreign Language					2																2	15
6	Home Economics				1		42								1	1			1			46	66
7	Industrial Arts							13			2		2		1	1						19	30
8	Journalism								1													1	
9	Library Science									2												2	
10	Mathematics							2			49		1						1			53	29
11	Music											40		1					1			42	22
12	Phys. Ed.—Men												9									9	61
13	Phys. Ed.—Women			1	1									12								14	5
14	General Science														8	1						9	4
15	Biology											2	1			12						15	17
16	Chemistry															2	7	1				10	2
17	Physics																	5				5	2
18	Social Science				6								3	1	1	2	1		82			96	81
19	Speech																			2		2	18
20	Other																				3	3	42
21	High School Total																					524	368
22	Elementary School Total	(One room, 317; lower grades, 318; upper grades, 220)																				1455	365

APPENDIX B—Continued

TABLE XX. Demand for Teachers—Nevada

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEVADA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 University of Nevada bachelor's degree graduates prepared for the various teaching assignments.

Line number Major Assignment	COLUMN NUMBER / Minor Assignment	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
	NEVADA 1954-1955																						
1	Agriculture										1				1							2	1
2	Art																		1			1	
3	Commerce													1								1	2
4	English			1		2				2									2	3		10	9
5	Foreign Language				1														1		1	3	1
6	Home Economics													1								1	1
7	Industrial Arts																						
8	Journalism																						
9	Library Science																						
10	Mathematics											1			2							3	4
11	Music				1					1												2	1
12	Phys. Ed.—Men																		2			2	5
13	Phys. Ed.—Women																						2
14	General Science												1									1	1
15	Biology																	1				1	1
16	Chemistry																						
17	Physics																						
18	Social Science										1		1	1								3	5
19	Speech																						
20	Other																				1	1	
21	High School Total																					31	37
22	Elementary School Total	(One room, 14; lower grades, 109; upper grades, 88)																				211	35

TABLE XXI. Demand for Teachers—New Hampshire

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEW HAMPSHIRE IN SEPTEMBER, 1953, WHO DID NOT TEACH ANYWHERE DURING THE 1952-1953 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1953 New Hampshire college and university bachelor's degree graduates prepared for the various teaching assignments.

Line number Major Assignment	COLUMN NUMBER / Minor Assignment	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
	NEW HAMPSHIRE 1953-1954																						
1	Agriculture	1																1				2	2
2	Art		5																			5	1
3	Commerce			8							2								7			17	7
4	English				10	10									2				10		1	33	25
5	Foreign Language					2													1			3	8
6	Home Economics				2		11								3	2					3	21	7
7	Industrial Arts							9			1				1						4	15	17
8	Journalism																						
9	Library Science																						
10	Mathematics							1			8				1	2	1	3				16	4
11	Music											6										6	2
12	Phys. Ed.—Men										1		2						1			4	1
13	Phys. Ed.—Women													2		1						3	16
14	General Science										3					2	1	1				7	7
15	Biology														1	2	1	1				5	2
16	Chemistry														1							1	4
17	Physics															1	1	1				3	
18	Social Science				2	2					1								18		2	25	38
19	Speech																						
20	Other																				1	1	4
21	High School Total																					167	145
22	Elementary School Total	(One room, 4; lower grades, 139; upper grades, 112)																				255	91

The New Hampshire report covers the 1953-54, rather than the current school year.

APPENDIX B—Continued

TABLE XXII. Demand for Teachers—New Jersey

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEW JERSEY IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 New Jersey college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	NEW JERSEY 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.--Men	13 Phys. Ed.--Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	3																				3	
2	Art		35																			35	24
3	Commerce			84																		84	86
4	English				129																	129	129
5	Foreign Language					43																43	43
6	Home Economics						50															50	24
7	Industrial Arts							34														34	28
8	Journalism																						
9	Library Science									16												16	
10	Mathematics										83											83	45
11	Music											30										30	27
12	Phys. Ed.--Men												22									22	88
13	Phys. Ed.--Women													48								48	31
14	General Science														43							43	39
15	Biology															9						9	14
16	Chemistry																10					10	8
17	Physics																	4				4	1
18	Social Science																		95			95	144
19	Speech																						8
20	Other																				18	18	10
21	High School Total																					756	746
22	Elementary School Total	(One room, 4; lower grades, 1907; upper grades, 367; special subjects, 268)																				2546	672

In New Jersey it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in composite table.

TABLE XXIII. Demand for Teachers—New Mexico

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEW MEXICO IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 New Mexico college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	NEW MEXICO 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.--Men	13 Phys. Ed.--Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	4						1			2				2	1			1			11	10
2	Art		7		1																	8	15
3	Commerce	2	3	7											1				1			14	21
4	English	5		1	42	2	1		2				2	1					4	1		61	15
5	Foreign Language	1	1	1	1	7								2					2			15	5
6	Home Economics					2	12															14	20
7	Industrial Arts	2		1				9			1											13	19
8	Journalism																						
9	Library Science	2								1												3	
10	Mathematics	1									16		1	1					1			20	14
11	Music	1			1							10						1				13	11
12	Phys. Ed.--Men												4									4	41
13	Phys. Ed.--Women	2			1									9					1		1	14	9
14	General Science		1								1		2		7							11	7
15	Biology	2									1					7						10	9
16	Chemistry																1	1				2	2
17	Physics	1			5						1							1				8	
18	Social Science	4		1									1		1				27	1		35	32
19	Speech	1		1																	5	7	6
20	Other	1																			7	8	5
21	High School Total																					271	239
22	Elementary School Total	(One room, 24; lower grades, 198; upper grades, 179)																				401	210

APPENDIX B—Continued

TABLE XXIV. Demand for Teachers—New York

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NEW YORK IN SEPTEMBER, 1953, WHO DID NOT TEACH ANYWHERE DURING THE 1952-53 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1953 New York college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	NEW YORK 1953-1954	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture																						23
2	Art		240																			240	398
3	Commerce			188																		188	326
4	English				538																	538	272
5	Foreign Language					143																143	119
6	Home Economics						216															216	307
7	Industrial Arts							134														134	230
8	Journalism																						
9	Library Science									91												91	77
10	Mathematics										226											226	137
11	Music											308										308	594
12	Phys. Ed.—Men												343									343	412
13	Phys. Ed.—Women																						217
14	General Science																						198
15	Biology															219						219	18
16	Chemistry																						13
17	Physics																						6
18	Social Science																		354			354	385
19	Speech																				120	120	161
20	Other																						42
21	High School Total																					3120	3935
22	Elementary School Total																					5033	4877

In New York it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table. The New York report covers the 1953-54, rather than the current school year.

TABLE XXV. Demand for Teachers—North Carolina (White)

NUMBER OF NEW WHITE ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NORTH CAROLINA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 North Carolina college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	NORTH CAROLINA (White) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	39																				39	69
2	Art		5																1			6	20
3	Commerce			94	10	1					4				1				10			120	148
4	English				96	41	1			5	7	3		2	4				41			200	224
5	Foreign Language					9				2	1	1			2				2			17	32
6	Home Economics						79								17				1			97	115
7	Industrial Arts							13														13	24
8	Journalism																						
9	Library Science									8									1			9	6
10	Mathematics										47		6	2	28			1	12			96	94
11	Music											26			6							26	57
12	Phys. Ed.—Men												25		6				18			49	130
13	Phys. Ed.—Women													13	2				10			25	67
14	General Science														50				12			62	68
15	Biology						2				3		6	3		2	2		3			21	19
16	Chemistry										2						2					4	5
17	Physics																	1	1			2	
18	Social Science																		56			56	121
19	Speech																						
20	Other				3														3		23	29	22
21	High School Total																					871	1221
22	Elementary School Total	(One room, 6; lower grades, 698; upper grades, 1049; other, 4)																				1757	716

APPENDIX B—Continued

TABLE XXVI. Demand for Teachers—North Carolina (Negro)

NUMBER OF NEW NEGRO ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NORTH CAROLINA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 North Carolina college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	NORTH CAROLINA (Negro) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	7																			2	9	32
2	Art		1		1																	2	1
3	Commerce			22	1		1			1	1				1				1			28	80
4	English				10	8				5		1		3					5			32	46
5	Foreign Language					3						2							1			6	19
6	Home Economics						16							1	1							16	59
7	Industrial Arts							7														7	17
8	Journalism																						
9	Library Science									5									3			8	1
10	Mathematics										12		1		11							24	21
11	Music											8										9	20
12	Phys. Ed.—Men												7		1				2			10	26
13	Phys. Ed.—Women													4	1				2			7	16
14	General Science														17							17	56
15	Biology									1			1			1						3	20
16	Chemistry																1					1	1
17	Physics																						
18	Social Science																		19			19	77
19	Speech																						
20	Other																				5	5	10
21	High School Total																					203	504
22	Elementary School Total	(One room, 5; lower grades, 201; upper grades, 270)																				476	550

TABLE XXVII. Demand for Teachers—North Dakota

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN NORTH DAKOTA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 North Dakota college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	NORTH DAKOTA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	2									1				5							8	19
2	Art		2		1		1															4	4
3	Commerce	1		1	1							2		1	1				5	1		19	47
4	English		1	1	3	3				1	4	4	1	2	3				12	3	2	40	36
5	Foreign Language			1	2							1			1							5	1
6	Home Economics			1	3		9								16							29	44
7	Industrial Arts										2				1				1			4	9
8	Journalism																						1
9	Library Science																						
10	Mathematics			1	3							1			5				2			12	25
11	Music			1	11			1				4			1				3		1	22	23
12	Phys. Ed.—Men												1		3	3			9			16	41
13	Phys. Ed.—Women						1												1			2	8
14	General Science				3						8		3		2				8			24	15
15	Biology														1	1	1		2		1	6	7
16	Chemistry										1							1				2	2
17	Physics										1											1	
18	Social Science		1	7	10	1			1		3		4	3	8				7		3	48	44
19	Speech				1				1											1		3	2
20	Other		1		3	1													1		5	11	6
21	High School Total																					256	324
22	Elementary School Total	(One room, 746; lower grades, 148; upper grades, 107)																				1001	69

The North Dakota report is incomplete; it is based upon information supplied by all rural and 309 of 405 urban districts.

APPENDIX B—Continued

TABLE XXVIII. Demand for Teachers—Ohio

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN OHIO IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Ohio college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment →	OHIO 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total DEMAND for Teachers	1 Total SUPPLY of Teachers
1	Agriculture	6						3			4					10					2	25	3
2	Art		41		1		1					4										47	129
3	Commerce			189	7														8			204	118
4	English				236	31			6											12		285	219
5	Foreign Language				10	70													12			92	108
6	Home Economics		2				129							12		7						150	113
7	Industrial Arts		6					128			5		12		7		1	3			10	172	95
8	Journalism				4				2													6	1
9	Library Science				2					8									4			14	
10	Mathematics							4			93				6		8	7				118	115
11	Music		5		2							178							3			188	297
12	Phys. Ed.—Men												204		7	14						225	273
13	Phys. Ed.—Women				2									81		3			4			90	136
14	General Science												3		92		3	4				102	52
15	Biology	2					3						4	6		53						68	110
16	Chemistry	1											9		43	12						65	79
17	Physics												10			6	47					63	12
18	Social Science				2		3			2									204			211	234
19	Speech				7				1	3										39		50	95
20	Other																				420	420	67
21	High School Total																					2495	2216
22	Elementary School Total																					3794	1292

TABLE XXIX. Demand for Teachers—Oklahoma

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN OKLAHOMA IN SEPTEMBER, 1953, WHO DID NOT TEACH ANYWHERE DURING THE 1952-53 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1953 Oklahoma college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment →	OKLAHOMA 1953-1954	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total DEMAND for Teachers	1 Total SUPPLY of Teachers
1	Agriculture	21																				21	32
2	Art	2	2				1					1										6	34
3	Commerce	1		57	3		1				1	1	1			1			2		4	72	173
4	English			3	76	1	1		2	2	1	3	1	1	1				2	4	3	101	118
5	Foreign Language					1	14															15	10
6	Home Economics			1			47	4				1			2				1		2	58	169
7	Industrial Arts							37			1		1	1					1			41	89
8	Journalism																						24
9	Library Science									2	1											3	7
10	Mathematics				1						43				12						1	57	74
11	Music										2	46									2	50	100
12	Phys. Ed.—Men												6	7					1			14	92
13	Phys. Ed.—Women												1	6	2							9	30
14	General Science										3	1			16	2			3		4	29	39
15	Biology										2				3		1	1	1		2	10	23
16	Chemistry														1		1					1	13
17	Physics												1		1		2					4	
18	Social Science					1		2			1	1	2			1			33		5	46	187
19	Speech				2	1	1					1							1	3	2	11	35
20	Other																				31	31	3
21	High School Total																					551	1334
22	Elementary School Total	(One room, 10; lower grades, 200; upper grades, 301)																				511	820

The Oklahoma report covers the 1953-54, rather than the current school year.

APPENDIX B—Continued

TABLE XXX. Demand for Teachers—Oregon

NUMBER OF NEW WHITE ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN SOUTH CAROLINA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 South Carolina college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	SOUTH CAROLINA (White) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	11																				11	35
2	Art		2								2			1					1			3	6
3	Commerce			31	2						1				2				14	1	1	37	41
4	English				38	5			2	1	1		1		2	1			1			66	87
5	Foreign Language					4																5	12
6	Home Economics						20								2				1			23	37
7	Industrial Arts							9														9	16
8	Journalism								2													2	
9	Library Science									7												7	3
10	Mathematics			1	4						34		3	2	6	1		2	2	1		56	33
11	Music				1							32			1							34	37
12	Phys. Ed.—Men			1									4		1				1		1	8	34
13	Phys. Ed.—Women													9	1						1	11	21
14	General Science				2	1					8			2	31	5	1		1			51	33
15	Biology														3	5	1	1				10	13
16	Chemistry															2		1				3	4
17	Physics															1		1				2	
18	Social Science				8						2				2				27		1	40	64
19	Speech																						2
20	Other																				14	14	5
21	High School Total																					391	525
22	Elementary School Total	(Lower grades, 229; upper grades, 221)																				450	221

TABLE XXXI. Demand for Teachers—South Carolina (White)

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN OREGON IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Oregon college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment / COLUMN NUMBER Minor Assignment	OREGON 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	12																	1			13	17
2	Art		5		1															1		7	11
3	Commerce		1	15						1				1	1				6		2	25	36
4	English			2	16	1			4	1	1								8	1	3	41	28
5	Foreign Language			1	2	2																5	11
6	Home Economics		1		1		12		1				1	4	1							20	45
7	Industrial Arts							8			1		1	1					1		1	13	21
8	Journalism				1				1													2	4
9	Library Science									2												2	2
10	Mathematics				1						2		1		1	4		2	1			12	17
11	Music			1	2						1	23	1		1							29	45
12	Phys. Ed.—Men										2		4		1	4			2			13	61
13	Phys. Ed.—Women		1		1		1							21		2			2			28	27
14	General Science										1		1		2							4	22
15	Biology				1						2				1	3	1		2		1	11	11
16	Chemistry																6					6	11
17	Physics																	5				5	8
18	Social Science			2	1						1		3	1					29	1	1	39	44
19	Speech				1																	1	8
20	Other															1					2	3	4
21	High School Total																					281	431
22	Elementary School Total	(Two rooms, 4; lower grades, 286; upper grades, 167)																				457	331

APPENDIX B—Continued

TABLE XXXII. Demand for Teachers—South Carolina (Negro)

NUMBER OF NEW NEGRO ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN SOUTH CAROLINA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 South Carolina college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment →	SOUTH CAROLINA (Negro) 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	14																				14	23
2	Art		2								1												
3	Commerce			13	1						3								1			18	11
4	English			1	17	3						4		1					7		1	34	37
5	Foreign Languages					5																5	2
6	Home Economics						13								1							14	33
7	Industrial Arts							3							1				1			5	19
8	Journalism																						
9	Library Science				1					12												13	8
10	Mathematics				4						13		1		4		1					23	15
11	Music				1							7										8	6
12	Phys. Ed.—Men												5	1		1			1			8	16
13	Phys. Ed.—Women													3					1		1	5	8
14	General Science										5		1		4	2					1	15	18
15	Biology										1				2	2						7	17
16	Chemistry										3				1		5	1				10	10
17	Physics																						
18	Social Science				1						1	1							10		1	14	43
19	Speech																						
20	Other																				5	5	
21	High School Total																					201	268
22	Elementary School Total	(Lower grades, 119; upper grades, 112)																				231	362

TABLE XXXIII. Demand for Teachers—South Dakota

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN SOUTH DAKOTA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 South Dakota college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment →	SOUTH DAKOTA 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture			1	1										1	2	1		2				19
2	Art				2																		7
3	Commerce					1		1	3	1			1						8	1		20	29
4	English		2	1		2			5	2	4			1			1		7	8		35	36
5	Foreign Languages				3																	3	1
6	Home Economics		1	1	3				2			1		1	5	2	1	1	3			21	36
7	Industrial Arts										2								5			7	14
8	Journalism																						
9	Library Science																						
10	Mathematics			1											3	2	2	2	1		1	12	21
11	Music			1	6	1					1			1					2			12	29
12	Phys. Ed.—Men							1							1				5			7	41
13	Phys. Ed.—Women			1															1			2	7
14	General Science												2			2	1		1			6	4
15	Biology				1		1				1				1		2					6	8
16	Chemistry				1								1		1	2			1			6	4
17	Physics										1						1					2	6
18	Social Science			3	4	1		1	1		1		5		1	3				2		22	52
19	Speech				1							1		1					1			4	17
20	Other																		1			1	21
21	High School Total																					176	354
22	Elementary School Total	(One room, 326; lower grades, 120; upper grades, 78)																				524	112

APPENDIX B—Continued

TABLE XXXIV. Demand for Teachers—Tennessee

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN TENNESSEE IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Tennessee college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	TENNESSEE 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	7									1				2	1						11	49
2	Art		1																			1	15
3	Commerce			28	6		1			2									2			37	152
4	English			1	30	3	1			2	3		2		2				6	5	1	56	214
5	Foreign Language				3	2					1											6	28
6	Home Economics				3		15				1				4	2	2		1			28	164
7	Industrial Arts						1	14			1											16	42
8	Journalism																						
9	Library Science									4									1			5	2
10	Mathematics				4	1		1			20	1	1		4		2		5			37	48
11	Music				1						1	19							2			23	115
12	Phys. Ed.—Men			1							2		23		2	2			7			37	137
13	Phys. Ed.—Women			1	2									12		1			2			18	71
14	General Science						1				1		1		5	7			4			19	60
15	Biology					1							1		3	3	3	1				12	76
16	Chemistry														1	2	1	1				5	29
17	Physics										1					1			1			3	1
18	Social Science				5						4		1		3	1			16			30	346
19	Speech																			1		1	12
20	Other																	1				1	20
21	High School Total																					346	1581
22	Elementary School Total																					952	714

The Tennessee report includes inexperienced teachers only.

TABLE XXXV. Demand for Teachers—Texas

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN TEXAS IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Texas college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↘ COLUMN NUMBER Minor Assignment	TEXAS 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	91																				91	228
2	Art		20																			20	55
3	Commerce			171																		171	433
4	English				343																	343	870
5	Foreign Language					28																28	79
6	Home Economics						203															203	336
7	Industrial Arts							80														80	133
8	Journalism																						26
9	Library Science									38												38	39
10	Mathematics										221											221	119
11	Music											140										140	266
12	Phys. Ed.—Men												220									220	389
13	Phys. Ed.—Women																						204
14	General Science																						26
15	Biology															190						190	89
16	Chemistry																						53
17	Physics																						9
18	Social Science																		225			225	517
19	Speech																			43		43	101
20	Other																				234	234	525
21	High School Total																					2247	3872
22	Elementary School Total	(lower grades, 2225; upper grades, 1793)																				4018	1792

In Texas it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

APPENDIX B—Continued

TABLE XXXVI. Demand for Teachers—Utah

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN UTAH IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Utah college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	UTAH 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture				1			1							1	2			1			5	27
2	Art		9		1					1	1								1			13	19
3	Commerce			11	2						1			1					1			16	22
4	English			3	20	2			3		2	1	1	1	1				8	10		32	26
5	Foreign Language				3																	3	13
6	Home Economics				4		26		1					3		1			1			36	24
7	Industrial Arts							16			1				1							18	16
8	Journalism																						2
9	Library Science				3					5												8	
10	Mathematics				1			1			10				4		1		4		1	22	10
11	Music			1	3						1	12							4			21	26
12	Phys. Ed.—Men			2	1	1					1		6		1	1			7			20	43
13	Phys. Ed.—Women		1	1	4		1			1		1		25	1				1	1		37	35
14	General Science			1	1						6		1		3	1	1		1			15	14
15	Biology			1							1				1	1			1			5	21
16	Chemistry															1						1	5
17	Physics																1					1	1
18	Social Science				11								2		2				22	2	1	40	65
19	Speech				3														1			4	4
20	Other			3																	7	10	6
21	High School Total																					329	400
22	Elementary School Total	(One room, 6; lower grades, 296; upper grades, 177; other, 21)																				500	402

TABLE XXXVII. Demand for Teachers—Vermont

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN VERMONT IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Vermont college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment ↓ / COLUMN NUMBER Minor Assignment →	VERMONT 1954-1955	1 Agriculture	2 Art	3 Commerce	4 English	5 Foreign Language	6 Home Economics	7 Industrial Arts	8 Journalism	9 Library Science	10 Mathematics	11 Music	12 Phys. Ed.—Men	13 Phys. Ed.—Women	14 General Science	15 Biology	16 Chemistry	17 Physics	18 Social Science	19 Speech	20 Other	21 Total "DEMAND for" Teachers	1 Total "SUPPLY of" Teachers
1	Agriculture	2																			2	4	6
2	Art		1																			1	1
3	Commerce			12																		12	5
4	English				10	4							1						12		2	29	23
5	Foreign Language																						17
6	Home Economics						7									1					4	12	10
7	Industrial Arts							1			1										1	3	3
8	Journalism																						
9	Library Science																						
10	Mathematics										4				4				2		1	11	5
11	Music					1						8										9	2
12	Phys. Ed.—Men										2		2						5		2	11	1
13	Phys. Ed.—Women										1			2							1	4	
14	General Science										6	1			2				2		1	12	3
15	Biology				1																	1	1
16	Chemistry																						1
17	Physics																						
18	Social Science				1		1				2		1			1			4		3	13	35
19	Speech																						
20	Other												1						1		9	11	9
21	High School Total																					133	124
22	Elementary School Total	(One room, 43; lower grades, 98; upper grades, 78)																				219	121

APPENDIX B—Continued

TABLE XXXVIII. Demand for Teachers—Virginia (White)

NUMBER OF NEW WHITE ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN VIRGINIA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Virginia college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment	COLUMN NUMBER Minor Assignment →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	VIRGINIA (White) 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	12																				12	24
2	Art		19																			20	23
3	Commerce			80															2			82	46
4	English		2	1	93	14	1			1	10	1	1	3	3		1		59	4		196	73
5	Foreign Language				3	10					2	1			1	2			2	1		22	16
6	Home Economics				1		47								2				1			51	21
7	Industrial Arts							30											1			31	10
8	Journalism																						
9	Library Science				1					17												18	16
10	Mathematics									1	70		2	1	11		2	1	6			94	42
11	Music				1							56							1			58	44
12	Phys. Ed.—Men			1							2		61		1	1			2			68	25
13	Phys. Ed.—Women				2									29		1			1			32	44
14	General Science			1	1	1	1				3		2		49	3	2		4			67	12
15	Biology					1							1		4	9			1			16	11
16	Chemistry				1										2	2	1	3				9	7
17	Physics																	2				2	
18	Social Science			1	7	3				1		2	5	2	3			1	72			97	105
19	Speech														1					3		4	2
20	Other																				8	8	
21	High School Total																					886	555
22	Elementary School Total	(One room, 28; lower grades, 765; upper grades, 569)																				1362	436

TABLE XXXIX. Demand for Teachers—Virginia (Negro)

NUMBER OF NEW NEGRO ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN VIRGINIA IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Virginia college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER Major Assignment	COLUMN NUMBER Minor Assignment →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	VIRGINIA (Negro) 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total "DEMAND for" Teachers	Total "SUPPLY of" Teachers
1	Agriculture	4																				4	16
2	Art		3		1											1						5	9
3	Commerce			22	2						1		1									26	19
4	English		2	1	12	4				1		1							5			26	20
5	Foreign Language				8	1																9	1
6	Home Economics						12							1								13	12
7	Industrial Arts							3			1											4	49
8	Journalism																						
9	Library Science				1					6					1							8	9
10	Mathematics				1						19		1		12							33	14
11	Music		1		4							15		1					1			22	19
12	Phys. Ed.—Men												10		3				1			14	14
13	Phys. Ed.—Women				2									5								7	18
14	General Science	1			1						4				7							13	12
15	Biology														1	1						2	4
16	Chemistry														1	2						3	2
17	Physics																		1			1	
18	Social Science				3					1	1			1		2			12			20	35
19	Speech																						2
20	Other																				1	1	22
21	High School Total																					211	299
22	Elementary School Total	(One room, 26; lower grades, 178; upper grades, 121)																				325	176

APPENDIX B—Concluded

TABLE XL. Demand for Teachers—Washington

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN WASHINGTON IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Washington college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment	COLUMN NUMBER / Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	WASHINGTON 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total DEMAND for Teachers	Total SUPPLY of Teachers
1	Agriculture	8		1				1						1		1	1	1	1			13	5
2	Art		21							1				1		1			2		3	29	18
3	Commerce			37	2		3		3			2	1	4	1				2		3	58	32
4	English			8	72	14	1	1	5	2	2		1	5	2				20	9	1	143	64
5	Foreign Language		1		7	9					1								3		1	22	10
6	Home Economics				3		73			2	1			9	1				2		2	93	51
7	Industrial Arts							26			2		1						3		2	34	56
8	Journalism				2																	2	3
9	Library Science				7					24								1	1		3	36	
10	Mathematics				3	3					21		3	1	8		1		1		1	42	32
11	Music		1	1	3			1		1	1	92		1	1	1			1		5	109	63
12	Phys. Ed.—Men				1						2		15		1	1			9		2	31	98
13	Phys. Ed.—Women				3						1			45	3						6	58	52
14	General Science				1	1					8		2	1	22	1						36	9
15	Biology							1					1			2	2	1			3	10	26
16	Chemistry														1		3					4	6
17	Physics														1			1				2	5
18	Social Science			2	9	2		1	3		2	2	13		3	1		1	26		3	68	170
19	Speech				1				1									1		6	2	11	20
20	Other	1			2	1	1	1		1	1			1					9		75	87	18
21	High School Total																					888	758
22	Elementary School Total	(One room, 27; lower grades, 945; upper grades, 912)																				1884	767

TABLE XLI. Demand for Teachers—Wisconsin

NUMBER OF NEW ELEMENTARY AND HIGH SCHOOL TEACHERS EMPLOYED IN WISCONSIN IN SEPTEMBER, 1954, WHO DID NOT TEACH ANYWHERE DURING THE 1953-54 SCHOOL YEAR

Lines 1-20 show new high school teachers according to assignments. The major assignment is shown on the line and the minor assignment in the column. No person is counted twice. Line 21 shows total new high school teachers; line 22 shows new elementary school teachers. Column 1 at extreme right shows the number of 1954 Wisconsin college and university bachelor's degree graduates prepared for the various teaching assignments.

LINE NUMBER / Major Assignment	COLUMN NUMBER / Minor Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
	WISCONSIN 1954-1955	Agriculture	Art	Commerce	English	Foreign Language	Home Economics	Industrial Arts	Journalism	Library Science	Mathematics	Music	Phys. Ed.—Men	Phys. Ed.—Women	General Science	Biology	Chemistry	Physics	Social Science	Speech	Other	Total DEMAND for Teachers	Total SUPPLY of Teachers
1	Agriculture	20						2							5	5	1	1	2			36	61
2	Art		12		4						1								2			18	55
3	Commerce	1	2	59	1	1					2			1					3			70	64
4	English	3	1		74	16		1	3	15	3	4	2	4	4				26	20		176	136
5	Foreign Language				6	2				2									2		1	13	25
6	Home Economics	1	1		5	2	81							2	7	1	1		2			103	107
7	Industrial Arts							20		1	3		2	1				1	3			31	126
8	Journalism																						1
9	Library Science				3	1				9												13	1
10	Mathematics			3	2						19	2	3		10	7		5	4	1		56	60
11	Music				2						1	52		1					3			59	88
12	Phys. Ed.—Men				4						2		14	4	7	5	4		17			57	56
13	Phys. Ed.—Women				2						1	1	2	34	3		1		6		1	51	50
14	General Science	1			3					1	9		2		7	8	3	1				35	30
15	Biology				2					1				1	5	9	5		2			25	47
16	Chemistry										3				1	2	1	4				11	29
17	Physics									1	4		2				1	1				9	11
18	Social Science			3	24	3			1	1	4	1	6	1	3	3	1	1	43	1		96	145
19	Speech				1														1	7		9	4
20	Other																		2		3	5	44
21	High School Total																					879	1222
22	Elementary School Total	(One room, 569; lower grades, 695; upper grades, 325; special education, 35)																				1624	901

With the Researchers

By

Douglas E. Scates

Research and Teaching in Personal and Family Living

THROUGH research and the applications of research, man has during the past seventy-five years increased the average length of human life in the United States by fifty percent.[1] This is a startling achievement. It attests the power man can command, even over life itself, through carrying on appropriate research and utilizing the results of research.

Lengthened life, however, is only one of man's major wants. Man desires also a life that is good—qualitatively good: one that is enjoyable when experienced, and satisfying when considered. Accordingly, it is pertinent to raise the question whether during the past seventy-five years man has learned how to live better as well as longer.

If one considers the physical conditions of living, the progress has been tremendous.[2] With the increase in technology, and its industrial accompaniments, the muscular energy required of man for sustaining his life has been greatly reduced. In addition, vast new powers have been given to him; for example, electric lighting, the telephone, radio, television, and transportation at speeds and over ranges scarcely dreamed of. Labor-saving devices have been introduced into the home and many of the former home tasks have now been commercialized—with considerable effect on family life.[3] It is estimated that the standard of living of the average or typical American family has been doubled during the last fifty years.[4] The aggregate national income, even after allowing for decreases in the value of the dollar, has doubled in twenty-five years.[5] In terms of physical developments which afford ease and opportunities for enjoyment, progress has been far beyond anything that could have been anticipated.

The physical conditions of life represent, however, only one part of the quality of life. The other part is the human part—the component contributed to life by human beings themselves. This human contribution is something over and beyond the purely

[1]Figures are approximate; derived from data presented in "How Long We Live," Chapter XXIV in: Louis I. Dublin, *The Facts of Life From Birth to Death* (New York: Macmillan Co., 1951). Also see: "Longevity from Ancient to Modern Times," *Statistical Bulletin*, Metropolitan Life Insurance Co., New York. Vol. 28, No. 10; October 1947.

[2]For a fuller description see "Research as a Way of Progress," Chapter I in: Carter V. Good and Douglas E. Scates, *Methods of Research: Educational, Psychological, and Sociological* (New York: Appleton-Century-Crofts, 1954). (See also the references given in footnotes.)

[3]William F. Ogburn and Meyer F. Nimkoff, *Technology and the Changing Family* (Boston: Houghton Mifflin Co., 1955).

[4]William F. Ogburn, "Technology and the Standard of Living in the United States," *Amer. J. of Sociol.* 60:380-86; January 1955.

[5]U.S. Bureau of the Census, *Statistical Abstract of the United States: 1954*, (Washington, D. C.: Government Printing Office, 1954). See tables on National Income, Consumers' Price Index; also recent press releases by the Office of Business Economics and the Bureau of Labor Statistics.

physical. It is man's reaction to the physical conditions, to his fellow man, and also to his own perceptions, feelings, and thoughts. In substance, this human contribution consists of feelings and emotions, of values and valencies, and of all the inner forces that move men to think, decide, speak, and carry out.[6] These elements are psychological; they are generated within the individual. His feelings are his particular response to the conditions of life; and his feelings, in turn, determine the quality of life as he knows it.[7]

Feelings and Their Effects

These feelings of the individual are basically important, both to himself and to others. Feelings somewhat commonly get out of balance: certain ones become disproportionately strong, and others become inappropriately weak. These imbalances may become a rather permanent part—a characteristic—of a person's reaction patterns. Some of these characteristic imbalances are: a basic feeling (probably unconscious) of emotional deprivation—perhaps of being unwanted—leading to love hunger; to loneliness (even in the midst of social groups); to an incessant, lifelong bid for acceptance; and to jealousy, envy, and perhaps avarice. There are the widespread anxieties, insecurities, fears, and neuroses; excessive dependence and paranoid overprotection; inner conflicts, indecision, tension, turbulence, and schizophrenia; the ceaseless uneasiness of the imperious superego, and the endless torment of the inferiority or so-called "guilt" feelings; the basic hates, leading to scorn, excessive rivalry, belligerence, rebellion, punitiveness, and retaliation — when directed outward; and leading to withdrawal, self-effacement, asceticism, despondency, crippling involution, and even self-destruction — when directed inward. The list could be greatly extended.[8]

One's feelings often determine, far more than do intelligence and education, what he will do in life. They exert a strong influence on his level of ability at any particular time; on the quality of work which he is able to do—and on the quality which he accepts as a standard or goal for himself; and they determine in large measure how long he will work on a particular task, and what his total work energy for any day will be. It is well known that one's emotions play a large part in the degree of creativity which he is able to exercise—granted any given level of intelligence. Many of the difficulties pupils have in learning are directly the result of emotions—perhaps discouragement, frustration, inferiority, anxiety, fear, anger, retaliation; or perhaps the emotional coloring of some other activity which seems much more attractive.[9] Such factors also play their part in a student's decision to remain in school or to drop out. We commonly talk of these matters as though they were cases of rational decision; perhaps they are, but usually they are such only on the surface.

Obviously one's feelings are not without their effect on others. Some persons are stimulating; just being around them makes one feel better. Others have an opposite effect. In any working group, not only the supervisor, but the peer workers, feel the downward pull of the person who is temperamentally unhappy; the irritation of the person who is characteristically aggressive; the added burden of the person who is habitu-

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[6]References to leading treatises in this area will be found in: Good and Scates, *op. cit.* "Dynamics: Forces and Systems," pp. 438-92.

[7]"Each individual invests life with feelings which make life tolerable and zestful or unhappy and intolerable." Kenneth E. Appel, p. vii, in: Emily H. Mudd, *The Practice of Marriage Counseling* (New York: Association Press, 1951).

[8]For a recent treatise in the psychiatric area one may wish to consult: Richard L. Jenkins, *Breaking Patterns of Defeat* (Philadelphia: J. B. Lippincott Co., 1954).

[9]Problems of mental health in education are treated extensively in: National Society for the Study of Education, *Mental Health in Modern Education*, Fifty-fourth Yearbook, Part II, (Chicago: University of Chicago Press, 1955).

ally difficult; the retarding influence of the person who resists everything new or different; the disappointment of the person who can be counted on to be primarily defensive; the despair of the person who cannot learn because he is always right. "When psychoneurotic or 'problem' employees are not obviously ill enough to the untrained eye to be away from work, they are most costly to an organization. . . . The morale and working efficiency of a whole group may be seriously lowered by the continued presence of just one of them."[10]

The Emotions and Health

Feelings affect health. We know this, but probably do not realize the extent to which it is so. We are used to thinking of emotions as basic causes in asthma, allergy, sinusitis, ulcers, colitis, and so on. But recent experimental work has gone much further. "There now remains no organ of the body in which physical changes related to emotions have not been proved of major importance. (p. 37). The physical changes associated with emotional disturbance lead first to poor function and then—if the stress continues—to structural damage of the tissues." (p. 35).[11] "The psychological element," adds Dr. Stevenson, "is universal in illness and must be considered in every patient." (p. 34).

An extensive study of about 3,000 men and women employees of a telephone company has recently been completed.[12] One-third of the employees accounted for most (80 per cent) of the aggregate absence from work. This same third also had the most minor illnesses, the most major illnesses, the most accidents, and the most surgical operations. They were also the ones who were unhappy in their home life or their work. A newspaper report of the study refers to them as the "unhappy, ineffective, and upset third of the adult population." This group "jams the hospitals and medical waiting rooms, overloads the welfare agencies, and burdens industry with a staggering cost in absenteeism and accidents."[13]

Of course it is obvious that the individual's feelings affect his health when he has become so disturbed that he must be hospitalized. The statistics here are no less than astounding. Half the patients in all the hospitals of the country—on any day of the year—are in mental hospitals.[14] Expressed in terms of the oncoming generation, this means that one child out of every twelve born will, at some time in his life, be in a mental hospital.[15]

The cost of the mentally (and emo-

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[10]Lydia G. Giberson, "Salvage the Problem Employee!" in: *The Human Side of the Office Manager's Job* (Office Management Series, No. 134) (New York: American Management Association, 1953), pp. 30-36.

[11]Ian Stevenson, "Psychosomatic Medicine," Part I, "What We Know About Illness and the Emotions," *Harper's Magazine* 209:34-37; July 1954.

[12]Lawrence E. Hinkle, Jr., and Norman Plummer, "Differences in General Susceptibility to Illness in Homogeneous Groups of Adult Men and Women" (New York: Department of Medicine, N. Y. Hospital-Cornell University Medical Center, October, 1954.) (This report is awaiting publication through medical channels.)

[13]*New York Times*, October 13, 1954. News report by Robert K. Plumb.

[14]National Association for Mental Health, "Facts and Figures About Mental Illness and Other Personality Disturbances," Prepared by Harry Milt (New York: National Association for Mental Health, 1952). These figures do not include the mentally deficient, nor the epileptic; nor do they include the mental (or emotional) patients being treated in general wards of hospitals.

[15]For some mental illnesses there is a definitely known organic basis, but in most instances little is known about the physical basis for the ailment. Even where organic conditions can be found, their role has not been established: they may be determining, or accessory, or results. A widely accepted theory is that even where an organic factor can be found, emotional stresses during childhood are a contributing factor to later susceptibility. Without these stresses in early life, and again in later life, the predisposing physical condition might never become effective.

tionally) ill, in terms of personal suffering, time lost from productive work, and cost for hospital care, is staggering.

There is one more point to be made. Not only do feelings make up the basic quality of life which an individual experiences—they exert a major influence on his level of ability; enter into his interpersonal relations and affect the lives of others; determine to a large extent the number and severity of the illnesses he will have—but they also are generally conceded to be a factor in the so-called "social illnesses"—delinquency, alcholism, narcotic addiction, and all forms of crime.

In summary: "So long as there are (mentally or emotionally) sick people in the general population, so long will industry continue to get them—in executive posts, in offices, and in factories."[16] "We are a nation of technical efficiency. We have spent more than 150 years in increasing this efficiency, while in the same period the human capacity for working together seems to be decreasing."[17] "There is probably no more serious problem in the health field today than that of mental illness. . . . Its effects are felt directly in every community. . . . No other illness takes so frightful a toll."[18]

Feelings are more than matters of volition.[19] Functionally, they are by-products of man's attempts to adapt to the conditions of life while protecting his individual interests. The quality of feeling which one has in doing this is a measure of his mental efficiency. If he can meet the vicissitudes of experience so that only a small amount of energy travels along those nerve fibers that lead to the centers of emotional excitation, he will not undergo the anger, resentment, anxiety, frustration, etc, which are so common. The trouble is that the habitual pathways of our mental signals are established when we are too young to look at the world with any full understanding or intelligence.

Prevention and Treatment

If experiences of the same kind are prolonged, these habituated routes become so strongly established that they are almost completely immune to rational control. Emotional memory is long. It is preserved in the parts of the brain that protected lower forms of animals for hundreds of millions of years before anything like the cortex appeared. This same dependable "old brain" protects us; the trouble is, it overprotects us. These habituated connections have the strength and general character of a conditioned reflex. To modify or break them calls for a long process of de-conditioning, and then reconditioning—establishing new routes. That is why volition has such a feeble chance—at any given time—in the face of well-established, long-standing emotional response patterns.

Enough has been said to give a picture, in general terms, of the importance of human emotions, of the tremendous cost to all of us when the emotions are not in harmonious balance, and of the pointlessness of admonishing an emotionally ill person to "control himself." The need is great; the cure is slow.

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[16]Brochure prepared by National Association for Mental Health, New York: "Breakdown," April 1954.

[17]Giberson, *op. cit.*, p. 31.

[18]Brochure prepared by National Association for Mental Health, New York: "No Other Illness. . . .", 1955.

[19]Certainly they can be influenced by cortical activity (the "intellect") but in the end, if the feelings are strong, they will take over in spite of "will power." This is what happens in personality disturbances, or mental illness. When emotions are strong, the higher brain centers will for a time aid in maintaining and even intensifying them—for the cortex gets its cues from the rest of the brain as well as from the external world.

For an engagingly written, but apparently sound, description of the various parts of the brain, their interrelations, functions, and malfunctions, see: John Pfeiffer, *The Human Brain* (New York: Harper and Brothers, 1955). "The cortex can keep us awake when we are dead tired. . . . But the powers of the cortex are limited. . . . The brainstem cannot be denied indefinitely." (p. 76).

A number of national voluntary agencies have sprung up in the last fifty years to attempt measures of prevention, or aid in treatment.[20] Their programs emphasize research, in order to gain more real understanding, and education in some form or other—of parents, of adults generally, of children, perhaps of teachers. The National Association for Mental Health supports research and better treatment for those afflicted. The Child Study Association of America centers attention on the needs of the developing child and engages in parent education. The Association for Family Living (Chicago) engages in parent education and offers counselling service. The National Congress of Parents and Teachers works largely through state and local groups, somewhat generally in the field of parent education. A number of group work agencies, of course, engage in character building activities, primarily for their own members. Certain professional organizations, existing as societies of professional persons for the advance of their profession, operate in this area. Examples are the American Home Economics Association, and the National Council on Family Relations.

The American Social Hygiene Association

Of particular interest to educators is the American Social Hygiene Association. Its principal focus is on improved personal and family living. It seeks therefore to foster mental health and sound values in the growing individual, and to strengthen and enrich family life—since the home provides the initial attitudes and basic emotional training of the child,[21] as well as forming the primary social unit of society. The ASHA combines the interests of other agencies related to this field and works cooperatively with them. It also draws upon many more fundamental disciplines, such as biology, physical health, medicine, psychology, sociology, mental health, home economics, ethics, etc.

Through its Education Division, ASHA cooperates with colleges and universities, and school systems. Its chief emphasis at present is to aid in the preparation of teachers so that they will be able to handle instruction in the broad aspects of personal and family living. Administrators and professors of teacher education institutions in a group of mid-west states have recently prepared a report[22] outlining the ideas and understandings which they think should be given teachers in their states. An in-service program for teachers in that area is under way at the present time. This summer, the University of Minnesota is conducting a workshop for the further education of teachers—particularly the teachers of teachers—in the field of personal and family living. Meanwhile, another group of representatives from teacher education institutions in five Atlantic Coast states is meeting in Washington, D. C., to develop material of particular application to their region. Such regional projects are expected to continue, under the sponsorship of ASHA. The possibilities of extensive work in other forms of adult education are being explored.

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[20] One will recall that it was voluntary societies (often religious) that promoted public education in England and America for some hundred or more years before tax supported education became accepted. Such organizations have pioneered before.

[21] Helen Leland Witmer and Ruth Kotinsky (eds.), *Personality in the Making.* Fact-finding Report of the Midcentury White House Conference on Children and Youth. (New York: Harper and Brothers, 1952). See especially Chapter I, "The Making of a Healthy Personality"; Chapter IV., "The Importance of Parent-Child Relations"; and Chapter IX, "The Family."

[22] *Suggestions for Preparing Teachers in Education for Family Living.* By a regional project committee, 1954. Distributed by American Social Hygiene Association, 1790 Broadway, New York 19, New York. 101 pp. (Mimeographed.) Contains an extensive bibliography of books, pamphlets, and films, carefully classified, graded, and annotated.

Summary

Are mankind's difficulties inherent and ineradicable? Not so long as he is determined to do something about them. Not so long as research can be kept up, and the results of that research put to use. It is, of course, difficult for man to be willing to study himself. He has had such phenomenal success with understanding the physical world that he has been fascinated with it like a child with a toy. But it should be apparent by now that the great concern of our civilization for the past fifty or more years with the improvement and production of physical conditions has not met man's deeper emotional needs. Electric toasters, television, and jet propelled airplanes, while of indisputable value, are not enough. To hold in restraint the great inner forces with which man is endowed calls for more than mechanical conveniences in his environment. The proper balancing of the positive and negative tendencies within the individual, the integrating of his many wants into a workable unity, the maintenance of relative freedom from anxieties and from hatreds, the creation of the desire to "live and let live," in a spirit of good will—these emotional accomplishments can come only from adequate attention to, and the careful education of, the emotions of the oncoming generation. Nothing less will suffice. If the evils and the shortcomings in our society which are traceable to distorted feelings are to be brought under control, our nation will have to give major attention to a new concern—namely, the understanding of human emotions in a scientific way, followed by the dissemination of the resulting knowledge to every household, industry, and school. Until we have learned to look at human behavior largely from the standpoint of feelings, we shall have but slight understanding of human beings. And until we have understanding of them, we can do little to help them. The positive programs under way offer hope.

Browsing Through the Bookshelves

With this issue, Dr. Robert L. McCaul, Jr. assumes editorship of this section of the Journal *for a term of two years. Dr. McCaul is Assistant Director of the Center for Teacher Education at the University of Chicago. Although his present field of teaching and research is in the history of education, he has also worked in the field of the teaching of reading and in remedial reading.*

ADMINISTRATION

Shirley Cooper and Charles O. Fitzwater, *County School Administration* (New York: Harper and Brothers, 1954) 566 pp., $5.00.

Here is a book that pioneers in a field of administration—the intermediate or county unit level. Much emphasis is placed on the role of the area itself and the office of county superintendent in the life of the people. Perhaps one-fourth of the content is in this direction.

The twelve states having a county unit plan of control fall in one category, the remaining states in another and illustrative material is always drawn from both groups. At times, one feels the authors have decided that no state can be missed and thus expound beyond the point of usefulness. Also, the logic of organization in the book should have "The Intermediate District of School Administration" followed by "The County Unit of School Administration," but we find these separated by a diversion, "The County Superintendent of Schools,"—probably a minor item, but disconcerting.

Although this work is essentially an exposition of county school administration, it should spark new ideas occasionally for the man on the job. "Service Function of the Intermediate District," pages 126 through 130; "Summary on Leadership Through the County Superintendent's Office," 229 and 230; and "General Professional Qualifications," pages 292 through 295 might be cited as examples in this direction. Probably one of the most clearly organized chapters deals with "The Function of the County Superintendent with Boards of Education." On the other hand, "School Business Management" is so general it contains little to stimulate thinking and most references are to local districts rather than to county areas.

This book sets the county and its educational leadership in historical perspective, shows how the functions have changed and suggests future developments. In spite of the suggestions made above, it should prove to be a landmark in the field.

Ralph E. Heiges
State Teachers College
Indiana, Pennsylvania

RESEARCH

J. Stanley Ahmann, Charles O. Neidt, and James E. Wert, *Statistical Methods in Educational and Psychological Research* (New York: Appleton-Century-Crofts, Inc., 1954) 435 pp., $5.00.

One of the most needed texts in the college area today is a statistics book which will cover the basic essentials and theories of statistics yet not thoroughly confuse students who read the text. The text presented by Wert, Neidt, and Ahmann goes far in this direction. Although the authors do a good job of presenting the written work in parts of the book, it is evident that the introductory chapters have been too restricted, where more thorough presentations are demanded by students. This is true of the chapter on classification and presentation of research information and also the chapter dealing with central tendency. Much more could have been done with respect to classification and graphical

representation of data. If these areas are not thoroughly covered for the students, then the latter chapters will be considerably more difficult to comprehend.

The section devoted to the normal curve is also too brief, although the inclusion of this study in the chapter on variability does have merit.

The early introduction of chi square also deserves recognition. The chapter devoted to chi square is one of the best in the entire text.

In the latter half of the text the authors really begin to show how well statistical concepts can be covered in written form. The absence of mathematical derivations is to be commended. The authors have gone far to explain in words many concepts which are usually presented in a mathematical form. Once students comprehend the earlier portions of the text, the latter sections should follow along in a very understandable fashion.

Warren J. Pelton
Bowling Green State University

Arthur W. Foshay, Kenneth D. Wann, and Associates, *Children's Social Values* (New York: Bureau of Publications, Teachers College, Columbia, 1954) 323 pp., $3.50.

Children's Social Values is a simply and sincerely written book, a pleasure to read. It is the result of a number of experiments carried out by the teachers of six elementary schools in Springfield, Missouri, with the guidance and help of the authors. The book mainly concerns itself with two problems: 1) an investigation of children's social values; and 2) the method of "action research" and the values derived from it on the part of the teachers who participated in the research.

In their research, the teachers were faced with the problem of finding a method whereby "intangibles," the complex of attitudes involving such behavior as considerateness, aggression, and sharing could be studied and understood. Their efforts resulted in the use of the method of "action research," defined by the authors as ". . . research undertaken at the action level to improve practice." (p. 55). Abstracted from the book, the procedure they used was somewhat as follows: 1) Identification of a problem (e.g.: How does one help children develop a willingness to do what they have agreed to do —the problem of "follow-through"); 2) collection of behavioral incidents supposedly exemplary of the "intangible"; 3) agreement through discussion on a behavioral definition of follow-through; 4) hypothesis concerning some factor involved in follow-through or non-follow-through behavior on the part of the children; 5) experiment to test this hypothesis; 6) evaluation of results with further study wherever necessary. In order really to appreciate the method of "action research," one must understand that at every step, as outlined, a continual discussion of the problem, a continual appraisal and reappraisal, and a constant process of revision was being made. As the book unfolds, one has the feeling that the method is much like painting, where each line or color placed on the canvas necessitates the reconsideration of what has been done and what is to follow.

The teachers invariably started with a problem meaningful to them. The research problems themselves were worked out in as simple a manner as possible, since all research was carried on by the teachers during school sessions. It is here in the description of these teachers working together on common problems that the book seems to me to reach far beyond ordinary fact-finding research. In their work together, research becomes a very useful tool for individual and group problem-solving and change, as well as resulting in a growing body of knowledge which can be conceptualized and documented. Among the teachers' many realizations was a greater understanding of the part they played in the behavior of the children, and they often changed their own behavior through, it seems, the making of these discoveries for themselves.

The book is divided into three parts and four very short appendices. The first part describes the elementary school setting in Springfield, the beliefs concerning education held by the researchers, the questions to which they sought answers; and an excellent discussion of the method of action research. The second part is taken up with the experiments conducted by the researchers, involving problems such as "follow-through and group acceptance," "independence and initiative," "considerateness and aggression," "ownership and sharing," "democratic behavior and security."

The studies were often based on very few cases, but the authors are always careful in making generalizations from these data. Highly commendable is the fact that each experiment is followed by a step-by-step plan for repeating it, together with the pitfalls the teachers faced. The third part is a discussion about the researchers' experience and their conclusions concerning its many values and problems to them as teachers. The four appendices consist mainly of examples of various materials used in the study.

Children's Social Values should, I think, be recommended to any teacher who is interested in learning something of high value about the interpersonal relationships between the children and between himself and the children in the classroom. There is much to be derived too from the authors' lucid discussion of attitudinal learning. Most important of all for the teacher is a concise outline of the method of action research, showing how these and similar experiments can be undertaken within the ordinary school day so that the perhaps already overburdened teacher can perform such experiments with a minimum of extra work. Through the use of such research the teacher can gain a wealth of practical knowledge, as the teachers at Springfield certainly prove.

William L. Kirtner
University of Chicago

ATYPICAL CHILDREN

In the opening pages of Frances Lloyd's book, *Educating the Sub-Normal Child,* (New York: Philosophical Library, 1953), 148 p., $3.75), the reader senses that the author really understands mentally retarded children and has respect for them as individuals. The fact that Miss Lloyd has taught slow children of various ages and is currently head teacher in a junior school for educationally sub-normal children in England has probably helped her to give this impression.

In Britain, children diagnosed as educationally sub-normal (I. Q. 50-70 or 75) may be sent to special schools at any time after they are chronologically five years of age. It appears that some of the same prejudice against recommending children to such schools exists there as in America; many regular educators feel that the child so placed is unfairly and undemocratically segregated. Miss Lloyd points out that such critics are quite evidently unaware of the true nature of mental retardation and of the more insidious psychological segregation which can be more cruel to the slow child than actual physical separation from his age-mates. At the same time, she pleads for careful evaluation of candidates for special schools, for periodic reappraisal of children placed in special education facilities, and for a swinging door policy which will enable the very rare child who improves after placement to return to regular school. She illustrates all of these points through case studies of children who have been or are in her own school. In the same manner, through case references, Miss Lloyd shows how home background and parental attitudes influence the responses of slow children in the school situation, and how home and school together either prevent or contribute to delinquency among such children. Again through case studies she shows why some children with problems fail to make adjustment in the special schools because their basic problems are other

than the one (mental retardation) with which the special school is equipped to deal.

Miss Lloyd devotes fully half of her book to the educational program for sub-normal children. While she gives ample consideration to developments of language, reading, writing, and number skills—with good, practical suggestions for utilizing guided activities in developing these skills—she also emphasizes the importance of social learnings for these boys and girls if they are to make adequate community adjustments both as children and adults. She concludes by pointing out that the special school graduates may be considered successful if, by school leaving age, the pupil's educational attainments are in line with mental age expectancy, if he is alert, interested, cooperative, able to utilize his limited skills to good advantage in a job situation and able to employ his leisure hours in ways acceptable to society as well as enjoyable to himself.

While Miss Lloyd's book is written from the viewpoint of the British special school which is much more "separate" from the regular educational program than the current trends for special education in this country, in terms of understanding retarded children and developing educational procedures within the special classroom, it is basically sound for American teachers.

—*Amy L. Allen*
State of Ohio
Department of Education

Teachers and school administrators are constantly confronted with the problem of providing for children who are "backward" in school. In *The Causes and Treatment of Backwardness,* (New York: Philosophical Library 1953, 128 p., $3.75) Sir Cyril Burt, one of England's leading educational psychologists discusses this problem in a very realistic manner. Dr. Burt first summarizes the history of public education in England and shows how the "backward" child has become a school problem, primarily since educational opportunity became available to all children. He points out that schools helped to create the present problem, by making two unwarranted assumptions:

(1) That all children can learn equally well in a "lock step" system.
(2) That all children have equal ability to learn, providing the opportunity is extended to them.

He also relates knowledge of child development and changing philosophy and educational method, particularly in the "infants department" (primary grade levels).

Dr. Burt carefully analyzes the causes of backwardness among school-age children. He notes that while limited mental endowment is responsible for a major number of school failures, other factors physical development, physical disabilities, environmental limitations (including overprotection and lack of consistent home training among so called "good" families), emotional disturbances, poor teaching, to name a few—can influence poor school adjustment, and poor school performance among children of average and superior ability. Dr. Burt repeats over and over, very definitely that the child whose school retardation is due to some degree of mental retardation *cannot* be "fixed up" and expected to measure up to normal educational performance, that for him a special type of schooling is necessary if he is to be helped to become a self-reliant citizen. With equal definiteness he reiterates that while all mentally retarded children are retarded in school performance, not all educationally retarded children are mentally retarded. He warns repeatedly against passing judgment on a child's ability without adequate objective information about children—and perticularly on the basis of group test screening. He leaves the reader with no doubt that both educationally retarded and mentally retarded children are "backward" but that the type of treatment needed for each type is decidedly

different. He touches briefly on the brain injured child who may be found in either category—depending on mental ability.

Along with the strengths noted in the preceding paragraphs, Dr. Burt's book has one weakness that may tend to confuse readers who do not already have some background in the area of child development and retardation. In trying to condense a great deal of information into a relatively small number of pages, the author has frequently shifted emphasis from one area (mental retardation) to the other (educational retardation) without warning. As a consequence, the reader has moments of confusion because he has to refer to previous information. On the whole, however, the book is clearly written and should be helpful to American as well as British school personnel concerned with children who are "backward."

—Amy L. Allen

Kenneth W. Hodgson, *The Deaf and Their Problems,* (New York: Philosophical Library, 1954) 364 p. $6.00.

Those who are concerned with the school and educational problems of the deaf will find a welcome addition to their libraries. Mr. Hodgson is an Englishman, and so, is particularly concerned with the progress of education for the deaf in the British Isles.

The title may be somewhat misleading, since the greater portion of the book is historical. The panorama of the social and educational problems of the deaf from ancient to modern times unfolds for the reader, as Mr. Hodgson traces the rise of "national systems" and the differences in philosophies and methods which have, from the beginning, presented many obstacles in the way of promoting a sound international educational program for those handicapped by deafness.

There is considerable discussion of the responsibility of the "state" for the education of the deaf, as well as the need for parent education and the enlightenment of the general public, with special emphasis upon these problems as they exist in England.

On the whole, the book is well worth reading and both the professional and the casual reader will find it profitable. Mr. Hodgson has brought together a great amount of worthwhile information in an interesting and objective manner.

—Alice Greiner
Bowling Green State University

EVALUATION

Georgia Sachs Adams and Theodore L. Torgerson, *Measurement and Evaluation* (for the Elementary School Teacher) (New York: The Dryden Press, 1954) 489 pp., $4.90.

This volume well satisfies a long-standing need for a full-length book which treats all phases of measurement and evaluation at the elementary school level. The child-study approach, individualization of instruction, and the greater breadth and more functional nature of the modern curriculum, are all basic to the concept of evaluation developed here. Hence much more space is devoted to the role of the teacher in the evaluation process than to the administrative-supervisory uses.

The book is admirably suited for college course use. It is carefully documented throughout. Each chapter concludes with a summary, a selected reading list, and a highly selective list of source materials.

Groups of taechers-in-service might well participate in workshops and similar professional growth approaches to better insights and practices through close study of this book.

Charles W. Young
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A Review of
WHAT'S HAPPENING IN TEACHER EDUCATION
Around the Nation

ALABAMA

News Notes. The first state-wide conference on teacher education was held in the spring of 1954.

A revision of the bulletin on certification of Alabama teachers was authorized and published by the State Department of Education. This bulletin tells of the elimination of certain types of teaching certificates, and simplification of other types. The plans and program of the Alabama TEPS Committee have been revised.

—Frank L. Grove

ARKANSAS

Special Fifth-Year Program. As a part of the Arkansas Experiment in Teacher Education, the University of Arkansas is initiating a new Fifth-Year Program. College graduates under the age of forty-five who have been screened for general education requirements, subject-field specialization, and personal qualifications will begin a series of professional education experiences in June, 1955. This pre-teaching phase of nine to twelve weeks will emphasize professional learnings most needed to handle one's first teaching assignment.

In September, 1955, participants in the Special Fifth-Year Program will begin full-time teaching, under a regular contract in an Arkansas public school. During the regular school year participants will earn academic credit through seminars focusing on the problems they are facing in their teaching. In the summer following teaching, students will earn additional academic credit in college courses that will call on the experiences of their first year of teaching. Academic credit may be earned in fields other than professional education.

The successful completion of this fifteen months program will result in the Master's Degree by September, 1956.

The new unified teacher education program received its impetus from superintendents of schools in Arkansas. Public school personnel in Arkansas have unusual opportunities to help develop this new program.

Dr. Willard B. Spalding has been appointed by the Executive Committee as Director of Evaluation for the Arkansas Experiment in Teacher Education. Dr. Spalding is making an exploratory visit to Arkansas for a week in March. He will spend the entire summer in the state laying the foundation for the process of appraisal that will continue until the end of the Experiment.

The Southwest Regional Meeting of the Association for Student Teaching will be held in Little Rock on April 29 and 30. Dr. Leonard O. Andrews, Coordinator of Student Field Experiences at Ohio State University, will serve as consultant at the meeting.

—David C. Pulley

CALIFORNIA

Committee on Credential Reform. Dr. Roy E. Simpson, State Superintendent of Public Instruction, in cooperation with Dr. Arnold E. Joyal, President of the California Council on Teacher Education, jointly appointed a Committee on Credential Reform. The committee will study the entire certification structure, standards, and procedures now in effect in California's system of fifty-nine separate and distinct types of credentials, and recommend new procedures and standards. This study, long overdue in California, has as its aim: (1) reduction of the number of separate types of credentials now authorized; (2) integration of present training programs for the various levels of education and types of subject matter specializations; and (3) more flexibility in the authorization of service to be performed by credentialed personnel and thus more freedom in the assignment of teachers by administrators and more latitude in developing programs of preparation by institutions.

Dr. Lucien Kinney, Professor of Education at Stanford University, is chairman.

—James C. Stone

DISTRICT OF COLUMBIA

Based upon nine years of pioneering research and experience in the relatively new field of training leaders in the skills and understandings necessary for developing effective groups, the National Training Laboratory in Group Development will hold two three-week summer laboratory sessions at Gould Academy, Bethel, Maine. The dates will be from June

19 through July 8 and from July 17 through August 5.

Approximately 125 applicants will be accepted for each of these two sessions. Persons involved in problems of working with groups in a training, consultant, or leadership capacity in any field are invited to apply.

The purposes of the training program are five-fold: to develop sensitivity to the existence and nature of the dynamic forces operating in the small group; to develop self-insight into the effects of one's behavior on others in a group; to gain skills in operating more effectively in a group; to gain understandings and skills for working in larger social units such as organizations and committees; and to develop skills of using scientific methods in social problem-solving.

A special project concerned with the development of understandings and skills of human relations training will be instituted this year for a selected group of delegates.

The NTLGD is sponsored by the Division of Adult Education Service of the NEA and by the Research Center for Group Dynamics of the University of Michigan, with the cooperation of faculty members from many of the nation's leading educational institutions.

FLORIDA

News Notes. The approving of programs of teacher education in institutions which prepare teachers is progressing. The new State Board Regulations, adopted in July, 1953, are rapidly being implemented. Of the eleven institutions which prepare teachers, eight already have been visited and approved for three years. The three remaining ones will be visited this summer.

Florida is following the pattern recommended by the National Commission on Teacher Education and Professional Standards regarding teacher education. The statutory group is in Florida the Teacher Education Advisory Council which works closely with the state teachers association (FEA). A recommendation was considered by the FEA at its annual meeting in March at Tampa to make the Teacher Education Advisory Council, now a recommending body, the same as the Florida TEPS Committee.

—*M. Mitchell Ferguson*

IDAHO

TEPS Committee Studies. Several very fine studies have been completed recently by the Idaho State TEPS Committee. These include: "Teacher Turnover in Idaho—1954-55"; "Summary of Training and Experience of Certified Teachers in Idaho for the School Year 1953-54"; "What Became of the May 1954 College Graduates Who Were Qualified To Teach?"; "Courses Which Must Be Taken by Idaho Teachers Who Have A Standard Elementary Certificate in the Other Ten Western States."

Some of these studies which show that high standards, high salaries, and an ample supply of teachers go hand in hand have been turned over to state legislators who are now in session.

Board of Educators. Some study has also been made of the possibility of securing legislation creating a Board of Educators to be appointed by the governor to formulate standards for the licensing of qualified persons to teach. While realizing that the study may be rather idealistic, the Idaho TEPS Commission would like to hear from any person or committee who has any information concerning the possibilities of such a board, having powers comparable to those of a medical examing board.

—*Eunice Meppen*

ILLINOIS

Dr. Chris A. De Young, head of the Department of Education and Psychology at Illinois State Normal University, Normal, has been granted a second semester's leave of absence by the Illinois State Teachers College Board in order to serve as the education consultant for a self-survey of education in Pakistan. Mr. De Young, who started his teaching career in India in 1920, and who served as a Fulbright lecturer at the University of Delhi in 1950-51, returns in February to the Indian subcontinent for four months' work on the self-survey of mission education being conducted by the Presbyterian Church, with headquarters at Forman College, Lahore, Pakistan.

KANSAS

Certification. Eighty-five and nine-tenths per cent of last year's college students who met Kansas certification requirements and entered teaching in Kansas during the 1954-55 school term came from NCATE accredited institutions. Eighty-seven per cent of the estimated 1955-56 teacher supply from Kansas schools are now in NCATE institutions.

A new plan in certification is being initiated in which all applicants for teaching certificates are required to name what is termed a "parent institution." Credit taken by undergraduate students for renewal of a certificate must apply in meeting requirements for a degree for the individual taking the work. Other credit for renewal, where the degree is not involved, must be approved also by the indi-

vidual responsible for teacher education in the parent institution. Under this plan the parent institution may approve credit to be taken in other institutions.

The requirement that the individual must be recommended by the parent institution before certification is authorized is being continued, and also the limitation of thirty semester hours on non-resident credit. As you will recall we discontinued the issuance of "life" certificates. Our longest term certificate is for five years. The Kansas Advisory Council on Teacher Education has a committee at work studying the possibilities of identifying professional activities which may be substituted for additional college credit in the renewal of the five-year certificate.

—F. Floyd Herr

MASSACHUSETTS

Study of State Teachers Colleges. One of the most important developments in the state is the study which is being made of the state teachers colleges by a special commission authorized by the state legislature. This special commission will soon be making its recommendations to the legislature, based in part upon the report made to the commission by a staff of educators headed by Dr. Homer W. Anderson, formerly superintendent of schools in Newton, Massachusetts. The report gives general commendation to the work done by the state teachers colleges and proposes that enrollment in these teachers colleges be virtually doubled and that very extensive improvements be made in the teachers colleges.

—Hugh Nixon

Dr. Eugene L. Freel, Professor of Psychology at the State Teachers College at North Adams, was appointed president of the college at the January meeting of the State Board of Education. Dr. Freel succeeds Dr. Grover C. Bowman, retired.

—John F. Bowler

Massachusetts Council on Teacher Education. The January meeting of the Massachusetts Council on Teacher Education was devoted largely to two items—the Anderson Report and the subject, "How Are We Doing In Our Teacher Preparation Programs?"

The Anderson Report was discussed by Mrs. B. A. Thresher, Vice-Chairman of the Legislative Committee on State Teachers Colleges, who said that the purposes of the report were: (1) to study existing programs, facilities, and staff; (2) to study the capabilities of state teachers colleges to match the need for teachers; (3) to determine the placement of teachers in both public and non-public schools; (4) to see the respective roles of all colleges in their relations to future plans; and (5) to determine specific needs for expansion of facilities of the state colleges.

A panel discussion followed in which the point was emphasized that the total person is the significant unit in determining successful teaching.

Dr. W. Earl Armstrong, Executive Secretary of the National Council on Accreditation in Teacher Education, addressed the Council at its Annual Business Meeting on February 24.

The Harvard Graduate School of Education has announced the approval of a Ford Foundation Grant of $150,000 for the purpose of underwriting a pilot experiment over a three-year period. The school systems of Newton, Weston, Concord, and Winchester are cooperating in providing internship facilities, while Amherst, Harvard, Holy Cross, Massachusetts Institute of Technology, Mount Holyoke, Radcliffe, Smith, Wellesley, Wheaton, and Williams expect to provide the program with students. One of the features of the program is the pairing of two students who together will fill a position in a school system—one studying the first semester and teaching the second, and the other teaching the first semester and studying the second.

—Lester S. Vander Wert

NEW YORK

Resolution on Professional Boards. The Professional Education Committee of the New York State Teachers Association met in February to study and make recommendations on the Resolution on Professional Boards, which was referred to the group by the new Board of Directors of the NYSTA.

The Resolution states that the Board of Directors of the NYSTA "seek the cooperation of the State Department of Education in conducting a study with the ultimate objective of establishing professional boards on which classroom teachers would participate in: (1) setting up the educational requirements for admission to the profession; (2) analyzing and recommending sound programs for professional improvement; and (3) clarifying and maintaining professional standards. . ."

Dr. Alfred W. Thatcher, Dean of the State University of New York Teachers College at Potsdam, is chairman of the committee.

—Alfred W. Thatcher

NORTH DAKOTA

Summer Workshops. "The Teaching of Reading" was the theme of a workshop held at the State Teachers College at Valley City last summer, which proved to be of very great value to the teachers who attended. It was

an intensive two-weeks course, carrying four hours senior college credit and was taught by Miss Alberta Hazle of Clinton, Iowa, a specialist in reading. A combination of classwork and laboratory activities were carried through by the thirty-five teachers enrolled, who worked directly with children, exchanged ideas with other teachers, did research, and studied and collected materials dealing with their own particular reading problems. Because of the extreme interest shown in this type of course, a similar one will be offered in the summer of 1955.

—Opal Woodridge

The State Teachers College at Valley City was one of twenty-one participating colleges in the annual workshop sponsored by the North Central Association Subcommittee on Institutions for Teacher Education, held last summer at the University of Minnesota.

Institutional studies undertaken by several faculty committees are: the improvement of registration and class scheduling procedures; the preparation of a student handbook; the Faculty Committee System; the preparation of a student teaching handbook; a study of the content of professional courses in education.

—R. L. Lokken

OKLAHOMA

News Notes. The commission on Teacher Education and Certification is in the process of reviewing the certification program for school administrators. This program, initiated five years ago, has aided in the improvement of school administration, and has now been in operation long enough to provide a basis for a careful evaluation of its strengths and weaknesses. Out of this study and review should come possible revisions which will further contribute to the improvement of school administration.

The increase in the number of counselors and school psychologists employed in public schools in the state has emphasized the need for their certification. It is planned that before too long the Commission will be able to recommended a certification program for counselors and school psychologists to the State Board of Education.

Dr. Luther Brown, Director of Student Teaching and Placement service, Northeastern State College, Tahlequah, has recently become the new president of Northwestern State College at Alva. Dr. Brown replaces Dr. Sabin C. Perceful who retired from the presidency in January, after more than a quarter of a century of service to the institution.

Bethany-Peniel College, one of the five church-related liberal arts colleges in the state approved for teacher education, has recently changed its name. It is now called Bethany Nazarene College, thus denoting the church denomination with which it is identified.

—Eddie Gilbert

PENNSYLVANIA

Professional Standards. Progress in advancing professional standards is going forward on three fronts. At a recent meeting, the State Council of Education approved a resolution to set up a state-wide advisory committee to review the present certification standards and make recommendations for bringing them in line with the best practices in the nation.

The state TEPS Commission is now surveying existing practices in selective recruitment, graduate work needs of teachers, planned participation in visitations by committees of regional and national accrediting associations, a study of laboratory experiences in professional education, and an analysis of areas and items upon which supply and demand information is needed.

Each year since 1950 the Department of Higher Education of the state education association has sponsored a state-wide meeting of college people focusing on the improvement of teacher preparation programs in institutions of higher learning. The 1954 conference devoted its efforts to defining the role of the modern teacher in modern society.

—Eugene P. Bertin

RHODE ISLAND

New State Aid Bill. In the absence of the governor, Lieutenant Governor Kiernan signed into law a new State Aid Bill that has as one of its compliance features a salary schedule for teachers of $3,200 to $5,200 in twelve years of service.

TEPS Commission members have been very active in promoting this bill, believing that the salary schedule is Rhode Island's answer to the teacher recruitment problem.

—Leonard L. Maine

UTAH

Utah Education Association. It is hoped that a resolution passed by the House of Delegates last fall will stimulate improved professional preparation of teachers in the state. The resolution initiated a project in which engraved certificates were presented to members of the Provo Education Association, showing that all members have: (1) achieved full certification under the state law and rules and regulations of the State Board of Education; (2) Enrolled in the local, state, and national

education associations; and (3) committed themselves to abide by the provisions of the code of ethics of the profession. Each certificate indicates the degree held, in addition to the foregoing information.

—*Allan M. West*

A number of bills have come before the Utah State Legislature which are of interest to those concerned with the area of teacher education and professional standards. It has been gratifying to learn that a bill which was being prepared before the legislature intending to lower standards for the certification of teachers has received very little support.

It is also gratifying to observe that a bill, in the hopper at present, which would prohibit political activities among teachers and at the same time relieve school boards from the requirement of making payroll deductions for professional associations, has only limited support.

Although it is generally felt that education in Utah enjoys the support of the public, it is nevertheless distressing to observe such strong undercurrents to undermine the importance of education and the need for strong, free, well trained public school teachers.

—*E. T. Demars*

VIRGINIA

Selective Admissions. A recent study of the selective admissions program established at Longwood College, Farmville, in 1947, shows that it has brought to the college a more capable group of students in general; it has attracted more students of superior academic aptitude, and it has eliminated relatively incompetent students. A further result of the program is the increase of from 40 to 55 per cent in the number of freshmen who stay in college long enough to take degrees. This is considerably higher than the national average of 48.2 per cent for women in college reported by the U. S. Office of Education.

—*Dabney S. Lancaster*

Driver Education. Thirty-two students at Lynchburg College participated in a course in driver education first semester, and through it prepared to teach driver education in public schools in the state. The driver education care was made available through the cooperation of the Hoskins Pontiac Company of Lynchburg and the American Automobile Association of Virginia. The course is a popular one, and will be offered in alternate years as a continuing part of the college program.

—*Robert F. Williams*

A program of state-wide conferences for teachers of various subject-fields is sponsored by the University of Virginia.

The School of Education at the University views this conference program, which was begun eight years ago, as a contribution to the in-service training of Virginia's teachers. Each conference seeks to bring to those attending the thoughts of recognized national leaders in the subject concerned. Invitations are extended through division superintendents of schools to all teachers and other school personnel, and have been enthusiastically received. In March of 1954 more than three-hundred persons attended the fourth conference for teachers of language arts.

—*Richard A. Meade*

WASHINGTON

The WEA Teps Commission with lay groups cooperating held a conference on March 4 on "How Your Community Can Improve the Quality of Teaching." Factors influencing the quality of teaching such as double shifting, crowded classrooms, teacher preparation, and morale were discussed.

—*Vern B. Archer*

WISCONSIN

Television Course. Wisconsin State College at Milwaukee is offering a course called "Let's Talk About Children," on the local station WTMJ-TV. The course consists of nine telecasts on consecutive Saturdays culminating with a final examination at the college on the tenth Saturday, and carries one credit. The textbook used is *Your Child From One to Six*, published by the Children's Bureau, Department of Health, Education, and Welfare.

The Wisconsin Association for Health, Physical Education and Recreation has been working in conjunction with the State Department of Public Instruction and the TEPS Commission in developing a pattern for teacher education in the areas of physical education and health.

Proposed requirements have been worked out by teacher-education institutions in the state and are now being considered by the TEPS Commission for recommendation to the State Superintendent of Public Instruction.

—*H. I. Peterson*

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